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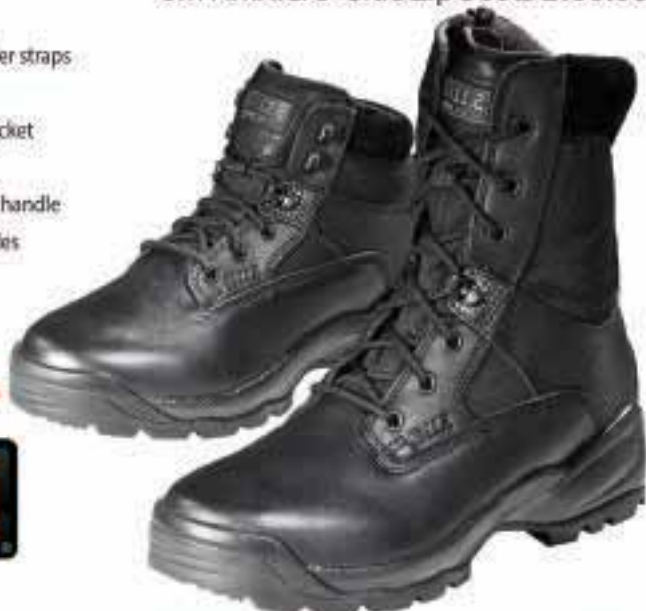
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[moira.spencer@hitmedialtd.com](mailto:moira.spencer@hitmedialtd.com)

**Editorial:** [editor@combatandsurvival.com](mailto:editor@combatandsurvival.com)

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### PAGE 09 Elite Forces: 'VAN DOOS' SNIPERS

**Carl Schulze** reports from Poland on Canada's crack snipers and their specialist equipment

### PAGE 16 Marching Ammo: DANISH 24-HOUR RATION

**Bob Morrison** photographed Denmark's current issue combat ration pack in the field in Spain

### PAGE 20 UK Vehicle Focus: SUPACAT JACKAL

**Carl Schulze** takes an in-depth look at the British Forces' nimble High Mobility Weapons Platform

### PAGE 28 Urban Survival: SURVIVING FIRE

**Jason Polley** looks at causes, response to and prevention of this major cause of urban fatalities

### PAGE 36 British Forces: ARMoured BATTLEGROUP

**Bob Morrison** is on the receiving as an RTR Lead Armoured Battle Group goes on the attack

### PAGE 43 Alliance Forces: TRIDENT JUNCTURE

**Bob Morrison** reports from Zaragoza on a multinational air assault and hostage rescue demo

### PAGE 50 Competition: Win £300 Of Woollies

This month we are going to clothe one lucky reader from head to toe in **Armadillo Merino** gear

### PAGE 52 Kit & Camo: NORWEGIAN JTAC

**Bob Morrison** focuses on an elite Joint Terminal Attack Controller from Piraya Battery in Spain

### PAGE 57 Peacekeepers: BANGLADESHI BATTALION

**Erwan de Cherisey** reports from Mali on the largest contributing nation on the MINUSMA mission

### PAGE 63 Outdoor Gear: TRIED & TESTED

**Mike Gormley** trials a fleece, head torch, hand torch, travel mug, survival guides and insoles

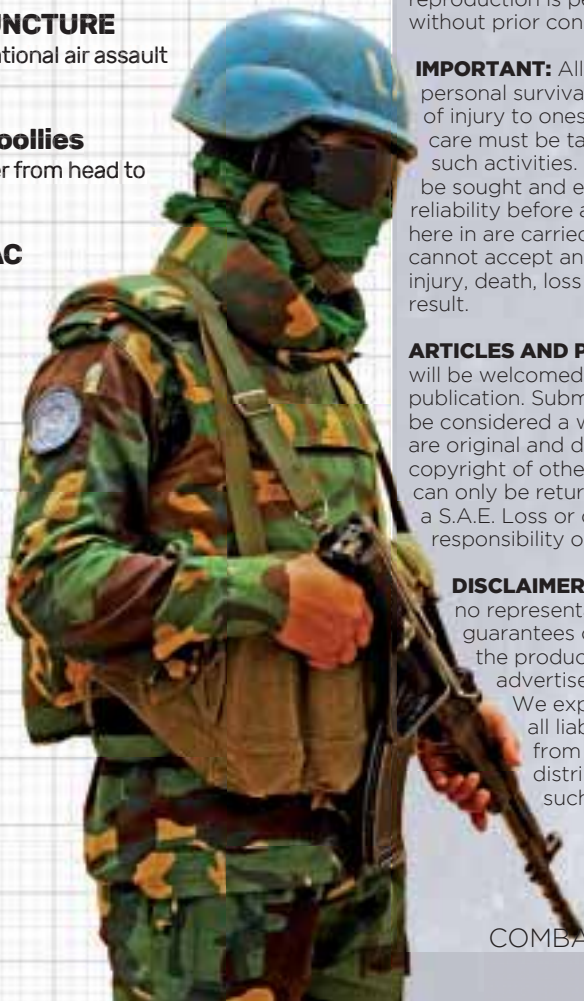
### PAGE 70 Scale Models: LEOPARDS & WWII CLASSIC

**Ian Young** introduces us to Revell Leopard 1 & 2 construction kits plus their wartime VW Beetle

**PAGE 05:** Comms

**PAGE 34:** Security

**PAGE 68:** Review







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# COMMS



**B**ack in January 2015 we announced, via the **combatandsurvival.com** website, that UK MoD had awarded the **VIRTUS** contract, for the supply and support of a Personal Protective Equipment & Load Carriage System, to **SOURCE Vagabond Systems Ltd.** Last September we announced on the website, after receiving confirmation from the manufacturer at the **DSEI military expo**, that the first 3,500 sets were being delivered; however since then, little has been seen of the system.

The current UK MoD publicity machine appears to be geared primarily to generating coverage for Ministers, rather than focussing solely on Armed Forces personnel and access to the troops these days is very limited. As a result, twelve months down the line from purchase and four months after the first batch was delivered, **C&S** had not observed **VIRTUS** being worn in the field... until, on 29th January, the MoD issued a press release about a Ministerial Visit to the Infantry Battle School at Brecon along with a handful of images of the Minister for Armed Forces.

Unfortunately **C&S** was not invited to Brecon to cover what we think might have been the first public outing of **VIRTUS**. Under MoD Crown Copyright rules we can only use these accompanying, and very interesting, images of **VIRTUS** for "Current News Purposes", so to ensure we comply with the MoD News Licence conditions we are running the press release verbatim:-

*Minister for Armed Forces Penny Mordaunt (MinAF) visited the largest military training area in Wales to witness world-class training by soldiers. The Infantry Battle School (INFBS), based at Dering Lines, Brecon, conducts the arduous Dismounted Close Combat courses in command and leadership on Sennybridge Training Area.*

*MinAF was briefed by INFBS Chief Instructor Major Chris Rose and was given a demonstration by students on the Platoon Sergeant's Battle Course who took part in a live-firing exercise where they were confronted by an enemy force advancing towards them. The exercise is designed to be physically and conceptually demanding to reflect the character of modern conflict.*

*Ms Mordaunt was also given a brief on the weapon systems used by soldiers and also witnessed a casualty evacuation scenario among the harsh, windy and cold conditions of the third largest military training estate in the UK used by the British Army. She also spoke to two female soldiers on the exercise - Staff Sergeant Bernadette Johnson, of 47 Regiment Royal Artillery and Sergeant Sally Stuart of the Royal Military Police.*

*On the question of women serving in Ground Close Combat roles, MinAF said: "I think it is clear women can make the grade in the military across lots of different roles. It's no good getting through the training course if you cannot actually have a career in the profession you want to serve in. We are doing an additional piece of work looking at the physiology of*

*women, why men and women have particular injuries and looking at what we can do to support them better."*

*Lieutenant Colonel Alex Rennie, INFBS Commanding Officer, said: "We train infantry soldiers for myriad situations across the spectrum of conflict and we were only too happy to give Ms Mordaunt a first-hand view of this. I think she was impressed with the excellent display put on by the staff instructors and the way both Regular and Reserve soldiers took on demanding live-firing training in very testing conditions."*

*Some of the students will have been on week three of the course and will have been out on the training area since Monday with the first major Field Training Exercise (FTX) of the course operating at platoon level, the students having previously operated up to section level only. The students will stay out on the area for five days in total. An exercise the Minister was also shown near Celini Village - a specially constructed housing area for training - focuses on Offensive Operations (deliberate and hasty attacks, Advance to Contact and also covers raids and Fighting in Woods and Forests).*

**BM**

**MINAF AND TRAINING STAFF WEARING VIRTUS SYSTEM COMPONENTS ON THE BRECON TRAINING AREA, 29TH JANUARY 2016  
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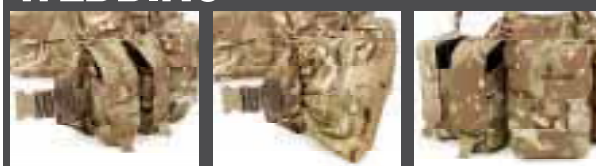
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**Canadian Army snipers are among the best in the world, as was proven by the fact that between 2002 and 2009 Corporal Rob Furlong of the 3rd Battalion, Princess Patricia's Canadian Light Infantry held the record for the longest officially confirmed sniper kill of an enemy in battle. During Operation ANACONDA in Afghanistan's mountainous Paktia Province, he engaged an Al-Qaeda fighter at a range of 2,430m with his 12.7mm C15 Long Range Sniper Weapon. With Canadian troops, including sniper teams of the 3rd Battalion, Royal 22e Regiment, currently deployed to Poland under Operation REASSURANCE, C&S recently headed east to provide readers with some firsthand information on Canada's top shots.**

*01. A SNIPER OF THE 3 R22ER ADJUSTS THE SCHMIDT AND BENDER 5-25X56 PM II SCOPE OF HIS .338 LAPUA MAGNUM C14 TIMBERWOLF MRSWS*

*02. OUT OF THE SIGHT OF THE ENEMY CANADIAN SNIPERS CAMOUFLAGED THEIR WEAPONS, PRIOR TO MOVING INTO A FIRING POSITION - NOTE THE STANDARD ISSUE SNIPER SMOCK WORN BY THE MAN IN THE FOREGROUND*

# 'VAN DOOS' SNIPERS

## CANADA'S ROYAL 22E RÉGIMENT ELITE

**D**ate - 17th December 2015, 10:59. Location - Drawsko Pomorskie Training Area, Poland: The shooters of the Polish and Canadian sniper teams carefully keep the reticules of the scopes of their sniper rifles trained on their targets. Today this is not easy, as mist obscures the targets making them hard to spot, even though they

are only 500 metres away. That the targets are yellow does not make things easier either. While even under such visibility hitting a target at a range of 500m is not a big thing for the Canadian and Polish snipers, their mission today is made difficult by an unusual requirement. The four shooters of the sniper teams have to engage four targets simultaneously and all have to be hit with the first shot. Again this sounds like no big deal for trained snipers, but the four targets are moving around constantly and most of the time one of them is hidden behind a vehicle.

Suddenly the sniper teams report that all four targets are in sight and immediately the mission leader begins a countdown that





## ELITE FORCES



Images © Carl Schulze

is broadcast from his radio to the teams deployed along a wood line: "Three, two, one!" Almost simultaneously, the four shooters pull the triggers of their weapons. In the case of the Canadians from the 3rd Battalion, Royal 22e Regiment (R22e R) the rifles are .338 Lapua Magnum C14 Timberwolf Medium-Range Snipers Weapon System (MRSWS) and 12.7x99mm C15 Long Range Sniper Weapons (LRSW), while the Poles from the 25 Brygada Kawalerii Powietrznej (25 BKPow) Air Cavalry Brigade use 7.62x51mm Bor sniper rifles.

The sound of the shots fired by the Canadians is muffled, as they use suppressors on their weapons. Seconds later the shooters of the sniper teams know that they have completed their task perfectly, as metallic pings tell them that they have hit their targets even before their spotter can confirm the hits. With this the short exercise, named **WITHOUT WARNING** after the motto of the Canadian snipers ends. It had started the day before with the mission planning and the agreement on common procedures between the Poles and the **Van**

**03. SHOOTER AND SPOTTER AT WORK - THE SPOTTER PROVIDES THE SHOOTER WITH VITAL INFORMATION ABOUT THE ENVIRONMENT TO ALLOW HIM TO ENGAGE A TARGET WITH HIGHEST POSSIBLE PRECISION**

**04. NOTE THAT THIS TEAM'S C14 MRSWS AND C15 LRSW ARE BOTH FITTED WITH SCHMIDT AND BENDER 5-25X56 PM II SCOPES AND SUPPRESSORS**

**05. THIS IS THE CORAL CR ADVANCED HAND-HELD LIGHTWEIGHT THERMAL IMAGING CAMERA WITH CONTINUOUS OPTICAL ZOOM AND TARGET ACQUISITION CAPABILITIES - NOTE THE AN/PEQ-2 TPIAL MOUNTED ON TOP**

**06. "THREE, TWO, ONE!" SIMULTANEOUSLY WITH THREE OTHERS A CANADIAN SNIPER ENGAGES A TARGET WITH HIS 12.7 MM C15 LONG RANGE SNIPER WEAPONS (LRSW)**

**07. DURING TRAINING AND OPERATIONS CANADIAN SNIPER TEAM MEMBERS ALL CARRY C8A3 CARBINES FITTED WITH SUPPRESSORS - SHOOTERS CARRY THIS WEAPON IN ADDITION TO THEIR SNIPER RIFLE**

**08. THE CANADIAN SPOTTERS USE THE LEUPOLD 12-40 X 60MM SPOTTING SCOPE AND THE VECTOR RANGE-FINDING BINOCULAR FOR TARGET OBSERVATION AND EFFECT ON TARGET SURVEILLANCE**

**Doos** (an Anglicisation of vingt-deux, French for twenty-two).

Before dawn today the snipers had been deployed to a drop-off point, advanced by foot to their objective at first light, conducted a reconnaissance to find the best suitable positions and stalked into them. Under **Operation REASSURANCE** the Canadian snipers deployed to Poland are regularly training with their Polish counterparts in order to develop and enhance interoperability.

## R22ER SNIPER ORGANISATION

Canadian light infantry units such as the 3rd Battalion R22eR are structured into a Command Company, three Infantry Companies (A, B and C - in case of the 3 R22eR, A Company is airborne trained) and a Support Company. The Command Company includes a Reconnaissance Platoon with the battalion's Sniper Cell, which can field a number of four-man Sniper Teams and is commanded by the battalion's Master Sniper. Each Sniper Team consists of a Team Leader, a 2IC/Machine-gunner, a Spotter and the Shooter. All team members are qualified snipers, so the structure can be altered to address



a specific mission, deal with a certain target or handle a complicated threat environment. In any case Canadian snipers will always operate in pairs as a minimum. Dependent on the task, the Sniper Cell can be employed as a whole or team by team as part of the Reconnaissance Platoon, independently as a Sniper Cell or assigned to any other company or platoon of the battalion.

## SELECTION AND TRAINING

In the Canadian Army the Sniper Selection process is usually done at battalion level and lasts approximately two weeks. It is open to every infantryman who has completed the Basic Reconnaissance Course. As part of Selection the volunteers have to master a series of physical fitness tests as well as military and general knowledge tests. Selection also

07



includes a series of small exercises, during which the volunteers have to prove that they have the abilities to become a sniper, which see them undertaking navigation exercises, stalks, observation tasks and range measuring. The shooting skills of the volunteers are also appraised.

Once the volunteer has passed Sniper Selection he is sent on the Basic Sniper Course, that is approximately twelve weeks long. The first couple of weeks are dedicated to theory and basic sniper skills, including navigation, camouflage, fieldcraft, ballistics, sniper tactics, introduction to the sniper weapons used by the Canadian snipers, zeroing and so on. At the end of the theory part of

06



08



the course the volunteer has to pass an exam in order to pass on to the second part of the course.

The second phase is conducted in modules, which each have to be passed by the volunteer in order to allow him to move on to the next. Among the modules are, for example, Stalking, Distance Measuring, Observation and Conventional and Unconventional Range Shooting. At its end the Basic Sniper Course culminates in a physically and mentally challenging one-week exercise during which the future snipers have to master several realistic scenarios that require them to use all the skills they have learned during the course.

Once qualified, the new sniper is assigned to the Sniper Cell of his battalion and attached to a specific team. Inside the teams it is common practise to pair a new sniper with a more experienced team member who will coach him and share his experience with him. Within the Sniper Cell and the Sniper Team the new sniper's training continues and his skills are brought to perfection by extensive training and a continuing, never-ending series of tactical

# "THREE, TWO, ONE!"



## ELITE FORCES



exercises. Some of these exercises will also see the sniper training together with snipers of other nations and he will also be sent on courses that build upon the Basic Sniper Course. He might even be sent to participate in sniper courses of allied nations or to represent his country in international sniper and shooting competitions.

### CANADIAN SNIPER WEAPONS

The standard sniper rifle of the R22eR is the **.338 Lapua Magnum C14 Timberwolf Medium Range Snipers Weapon System (MRSWS)** manufactured by PGW Defence Technologies Inc. of Canada. From 2005 onwards this weapon replaced the 7.62x51mm C3A1 Medium Range Sniper Weapon, manufactured by Parker-Hale Ltd. in the UK, as standard sniper weapon of the Canadian Army.

The C14 is a manual operated bolt action rifle with a system that incorporates a five-round detachable box magazine. The receiver of the weapon is made from stainless steel and bedded into a McMillan A-5 polymer stock. Among other features, the stock includes an adjustable saddle type cheekpiece, a dual purpose butt hook and an adjustable butt plate. A fully adjustable Harris S-BRM bi-pod is mounted under it to the front. On top of the receiver a MIL-STD-1913 Picatinny rail is mounted, allowing installation of a sniper scope and night vision equipment.

The single stage trigger of the C14 is adjustable for creep, weight and over-travel. The free floating, partly helically fluted, heavy barrel of the C14 is made of 4140 Chrome Molybdenum steel and is 660mm long, featuring a barrel twist of 1:10 inch and having six grooves and fields. At the front it is threaded, allowing for a screw-on a muzzle brake or a suppressor. The rifle is fitted with a



**EACH R22eR SNIPER TEAM CONSISTS OF TEAM LEADER, ZIC, SPOTTER AND SHOOTER, ALL OF WHOM ARE FULLY QUALIFIED SNIPERS - HERE ONE TEAM MEMBER DOUBLES AS A SECOND SHOOTER, EQUIPPED WITH AN ANTI-MATERIEL RIFLE**

Schmidt and Bender 5-25x56 PM II with P4L fine reticule. It is 1,200mm long and weighs 7.1kg unloaded. Operational range for the weapon is given as 1,200m, but it is possible to use it effectively well beyond this mark.

For long distance sniping and for technical targets the Canadian snipers employ the 12.7x99mm **C15 Long Range Sniper Weapon (LRSW)** manufactured by McMillan Firearms of the USA under the designation TAC-50 A1. The heavy barrel, manually operated bolt action weapon features a box magazine system with five shot capacity. The stock of the C15 is made of fibreglass, can be adjusted in length and features a detachable buttstock, adjustable buttplate and adjustable cheekpiece.

The stock is specifically designed for use with the height-adjustable bipod fitted to its front.

The hand lapped, free floating, fluted match grade barrel is 737mm long and features a 1:15 inch twist. At the front of the barrel a thread is situated to which a muzzle brake or a suppressor can be attached. The weapon features the McMillan 50 calibre action, built to benchrest precision tolerances. The handle of the bolt is extra long and the C15 uses a Remington type match trigger set to 3.5 lbs.

On the receiver a MIL-STD-1913 Picatinny rail is mounted, allowing installation of a sniper scope and night vision equipment. Like the C14, the 12.7 mm C15 LRSW is fitted with





The amount of kit carried by each individual team member can weigh in excess of 50kg. Each team member will carry his personal weapon and at least 150 rounds of ammunition for it. The shooter will also carry his sniper rifle and 100 rounds of ammunition for it. Observation equipment carried by the spotter and other team members will include a Leupold 12-40x60mm Spotting Scope, a Vector range-finding binocular and a Coral-CR Advanced Hand-Held Lightweight Thermal Imaging Camera. Tripods for the optical equipment or used as weapon rests also go along. Also distributed amongst the team is navigation equipment, including a GPS as well as the old school compass. Each team member carries his own personal role radio and spare batteries, while one team member also will carry the team radio, needed to get in touch with higher

**09. THE SPOTTER'S EQUIPMENT INCLUDES THE LEUPOLD 12-40 X 60MM SPOTTING SCOPE AND THE KESTREL 4500NV POCKET WEATHER METER**

**10. CANADIAN SNIPER KIT INCLUDES: C14 .338 LAPUA MAGNUM RIFLE; C15 12.7 MM RIFLE; C8A3 5.56MM CARBINE; SUPPRESSORS; LEUPOLD 12-40X60MM SPOTTING SCOPE; VECTOR RANGE-FINDING BINOCULAR; AND CORAL CR ADVANCED HAND-HELD LIGHTWEIGHT THERMAL IMAGING CAMERA**

**11. USING A PAIR OF SECATEURS A SNIPER CUTS FOLIAGE TO ALTER THE APPEARANCE OF HIS GHILLIE SUIT AND BETTER BLEND INTO THE SURROUNDINGS**

**12. CAP BADGE OF R22eR - SEEN HERE ON THE BEIGE BERET OF A CANADIAN SPECIAL OPERATIONS REGIMENT OPERATOR [© BOB MORRISON]**

**13. 17TH OF DECEMBER, 2015. DURING EX. WITHOUT WARNING A CANADIAN AND A POLISH SNIPER PROVIDE COVER ALLOWING THEIR COMRADES TO CROSS A TRACK DURING THEIR ADVANCE TO THE OBJECTIVE**

echelons, with spare batteries. Sniper-related kit carried by the team members will include each man's ghillie suit, camouflage netting, secateurs, cam-cream, a Kestrel 4500NV pocket weather meter and so on.

On the food and drink side each member will carry between six and twelve litres of water and nine ration packs, each containing one meal. Then there

a Schmidt and Bender 5-25x56 PM II with P4L fine reticule. With sniper scope and magazine fitted the C15 weighs 13.38kg. With its buttstock removed the weapon is 1,170mm long but with buttstock the length increases to 1,440mm. The C15 has an operational range of 1,800m in the hands of a well-trained marksman, but targets well beyond this distance can be engaged effectively.

During training and on operations the members of the Canadian sniper teams all carry 5.56x45mm C8A3 carbines fitted with a suppressor; the shooters carrying these weapons

in addition to their sniper rifle. Dependent on the type of operation the team's weapon inventory also might include a 5.56x45mm C9A2 light machinegun.

## WHAT ELSE GOES ALONG?

Asked about what they would take along on a 72 hour mission, the Canadian snipers of 3 R22eR issued **C&S** with the following information. First and foremost, the kit carried by a team would heavily depend on the type of mission.

are sleeping bags, ground sheets, field cookers, weapon cleaning kits, waterproof clothing, warm clothing, spare clothing and so on. The kit is carried in the sniper's Eberlestock rucksacks and tactical vests, which are specially issued to them.

## VAN DOOS HISTORY

3rd Battalion, Royal 22e Regiment Based at Valcartier Garrison, Québec, the 3rd Battalion, Royal 22e Regiment (3 R22eR) is a light infantry battalion that maintains an airborne capability and is in charge of developing Canada's amphibious



## ELITE FORCES



capabilities. The battalion belongs to the 5 Canadian Mechanised Brigade Group (5 CMBG) of the 2nd Canadian Division. In total the francophone Royal 22e Regiment consists of three Regular Force battalions, two Primary Reserve battalions, and a band. The nickname of the regiment is Van Doos, a corruption of vingt-deux, French for twenty-two.

While the R22eR commemorates the history of the Canadian Regiment of Fencible Infantry, originally formed in 1803 and employed during the War of 1812, its more modern ancestor is the 22nd (French Canadian) Infantry Battalion, Canadian Expeditionary Forces established in November 1914. During World War I the battalion fought in every major engagement involving Canadian troops. Disbanded in 1920, a new unit made of veterans of the battalion was formed under the name Royal 22nd Regiment in 1921 and in 1928 renamed into Royal 22e Regiment. World War II saw the regiment fighting in Italy, the Netherlands and Germany.

In December 1950, a couple of months after the start of the Korean War, the Royal 22e Regiment was expanded from two to three battalions, thus the 3rd Battalion R22eR was born. The 3 R22eR fought in Korea from April to July 1953. Between October 1957 and November 1959 the regiment was then based in Werl in Germany, as part of 4th Canadian Infantry Brigade Group which fell under command of the 1 [BR] Corps of

the British Army of the Rhine. On its return from Germany the unit was based at Valcartier Garrison, where it has been based ever since, and up to 1968 it included an airborne trained component. Up to the end of the Cold War the 3 R22eR deployed a couple of times to Cyprus under **Operation SNOWGOOSE**, Canada's contribution to the United Nations Force In Cyprus (UNFICYP).

The 1990s saw 3 R22eR deploying repeatedly as peacekeepers to the Balkans, for example from March 1992 onwards it provided about 40% of the first Canadian UNPROFOR contingent. Then in 1996/7 the battalion took part in the UN Support Mission In Haiti (UNSMIH). In 1995, after the disbandment of the Canadian Airborne Regiment, the battalion was tasked to again create a company-size airborne force in its ranks.

Between February and August 2004, 3 R22eR saw action in Afghanistan, being deployed to Kabul under Phase I of **Operation ATHENA** with ISAF. In July 2007 it returned to Afghanistan, this time being deployed under Phase II of Operation ATHENA to Kandahar Province, where it operated up to February 2008. Between January and March 2010 the battalion deployed to Haiti as part of **Operation HESTIA**, Canada's



14. POLISH AND CANADIAN SNIPER TEAM LEADERS DISCUSS THE EMPLOYMENT OF THEIR TEAMS DURING EX. WITHOUT WARNING IN DECEMBER 2015

15. EBERLESTOCK RUCKSACKS ARE USED BY THE CANADIAN SNIPERS TO CARRY THEIR SNIPER WEAPONS AND KIT

humanitarian response to a massive earthquake. February and March 2014 saw the battalion taking part in **Exercise COLD RESPONSE '14** in Norway.

## OPERATION REASSURANCE

Under Operation REASSURANCE, Canada participates in the ongoing NATO Assurance Measures that started in April 2014. The Alliance launched these measures in response to the changes in the security environment in or near Europe, especially the challenges posed by Russia and its involvement in the Ukraine Crisis. Among other activities the NATO Assurance Measures included: increasing the number of aircraft on air policing patrols over the Baltic States; the deployment of aircraft to Bulgaria, Poland and Romania for training and exercise purposes; commencing AWACS surveillance flights along NATO's eastern periphery; sending more ships to patrol the Baltic Sea, the Black Sea and the Mediterranean; increasing the number of exercises; and deploying ground troops to the eastern partner nations of the Alliance for training and exercises on a rotational basis. One aim of the NATO Assurance Measures and therefore of Operation REASSURANCE is to develop and enhance interoperability, readiness, joint operations capabilities and multinational responses to potential crises.

On 17th April, 2014 the Government of Canada offered ground, naval and air force assets of the Canadian Armed Forces to NATO to take part in the NATO Assurance Measures. In July 2015 it was the turn of the 3rd Battalion, Royal 22e Regiment (3 R22eR) to take over the role of Canada's Land Task Force. Since then, paratroopers from the unit took part in several major exercises, among them the US-led exercise **ALLIED SPIRIT II** held at the JMRC at Hohenfels in Germany and the NATO-led Exercises **IRON SWORD** held in Lithuania and **TRIDENT JUNCTURE** held in Portugal, Spain and Italy as well as the Polish-led **Exercise DRAGON** in Poland.





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**We first covered Danish field rations back in December 2008 in the first part of our popular, occasional, long-running, Marching Ammo series and over the years both Carl and I have been interested in watching how they have developed since we first sampled them on exercises way back in the 1990s. When we last brought you an update on what our NATO allies were eating, in the November 2011 issue of C&S, we focussed on a ration pack Carl shipped back to me from Afghanistan's Helmand Province after a spell working with the Danes on operational deployment with ISAF.**

**A**t that time a roughly 750-strong Danish battlegroup was serving under British command and many of its troops working out of the main locations and the larger patrol bases had a choice of British (24-Hour Multi-Climate Ration), Norwegian

(Tropical Field Ration), US (Meal Ready-to-Eat) or the then new Danish (Summer, Wet Pouch) ration packs to provide both variety and specific operational nourishment and dietary requirements. Like all nationalities, the Danes have their own specific likes, dislikes and palate preferences - the Norwegians like

a lot of fish and American tastes can be a bit bland - so although the variety provided by other nations' rations could be welcome, their own national packs, which are in some ways quite similar to British 24-hour ration packs, are definitely geared towards the preferences of North-West European taste buds.





01

While out on the CENAD Chinchilla training area in Spain last November, covering the British-led multinational brigade on **Exercise TRIDENT JUNCTURE '15**, I grabbed a few spare minutes to photograph a Danish **FELTRATION, SOMMER** (Field Ration, Summer) pack which the crew of a stationary CV9035 Infantry Fighting Vehicle recce variant pulled out of a stowage bin. The pack had already been opened so the contents which they quickly laid out on the ground alongside their vehicle's tracks might not be 100% complete, but they do give us an idea of how the wet pouch summer variant rations are evolving; in my opinion along very similar lines to their British equivalent.



02



03



04

# DANSK FELTRATION, SOMMER

## SUMMER FIELD RATIONS - UPDATED



05

01: THE BULK OF THE CONTENTS LAID OUT BESIDE THE TRACK OF THE CONSUMER'S CV9035

02: MAIN DISH 'MEAT STICKS' ARE ACTUALLY CEVAPCICI - I.E. BALKANS STYLE PORK & BEEF KEBABS WITH RICE

03: BREAKFAST DISH IS CHOCOLATE MUESLI - 500ML OF COLD WATER IS ADDED TO THE POUCH TO RECONSTITUTE

04: REMAINDER OF THE CONTENTS INCLUDING SILVER FISH AND MAIN DISH RETORT POUCHES

05: DANISH RATIONS ARE PACKED IN A PLAIN CARDBOARD CARTON WITH MINIMAL PRINTING ON ONE SIDE



## MARCHING AMMO

Images © **Bob Morrison**



06



07



08



09

This carton, WET Menu 6 option, was packed in September 2015 and its primary contents were given as Meat stiks m/ ris & Müsli. You've got it: Meat sticks (actually cevapcici) with rice and Muesli. By online translating the rest of the contents list I reckon the carton should have also contained the following, most of which appear in the photos: Rye Bread, Biscuits, Fish, Spreads, Pate, Fruit Pouch, Protein Bar, Fruit Bar, Energy Drink, Chocolate Drink, Jam, Raisins, Peanuts, Coffee, Tea, Chewing Gum, Sugar, Salt, Pepper, Sauce/Ketchup, Wet Wipes, Toothpicks and Toothbrush. There are a some other items listed which I have not been able to translate with confidence but these might be the spoons, tissues and resealable bag.

**06: THESE SNACK RETORT POUCHES CONTAIN 50G OF TUNA IN WATER (LEFT) AND MACKEREL IN TOMATO SAUCE**

**07: THERE WAS NO RYE BREAD IN THE PACK - JUST THIS US-MADE SHELF STABLE 57G WHOLE WHEAT BREAD**

**08: TWO PACKS OF SAVOURY WHOLEGRAIN BISCUITS ARE INCLUDED TO PROVIDE PLENTY OF FIBRE**

**09: DANISH-MADE TOFFEE PROTEIN BAR AND CHOCOLATE BAR - NOTE ALSO CHEESE SPREAD AND JAMS**

**10: ORGANIC FRUIT BAR, (TOP) AND COMMERCIAL RAISINS AND APPLE & RASPBERRY FRUIT CONCENTRATE POUCH**

**11: MORE SNACKING FRUIT IS INCLUDED IN THIS 25G PACK OF DRIED CRANBERRIES**

**12: AND YET MORE SNACKING FRUIT IN THIS 25G PACK OF RAISINS - THE DANES ARE INTO HEALTHY EATING**

**13: COCOA AND LEMON FLAVOURED DRINKS POWDERS, SPICY SAUCE, PEANUT BUTTER AND CHEESE SPREAD**

**14: COMMERCIAL PEANUTS - PRODUCED IN THAILAND THESE ARE A BRAND FAMILIAR TO BRITISH TROOPS**

**15: ACCESSORIES IN RESEALABLE BAG - TEA, COFFEE, MILK, SUGAR, SALT, PEPPER, GUM, SPOONS ETC.**



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The one thing I noted, though this is probably only to be expected of a modern military ration pack for summer or warm climate issue, is that although it provides almost 3750 kcal, other than the breakfast muesli pouch it only contains one main meal pouch and the remainder of the contents are mostly geared towards healthy snacking. The other thing of note is that the once familiar blocks or slabs of rugbrød (rye bread) are no longer a main feature of Danish rations, but an American shelf stable whole-wheat sandwich is included. Shelf life for all consumable items appears to be three years.



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## UK VEHICLES



02.



# SUPACAT JACKAL

## HIGH MOBILITY WEAPONS PLATFORM

*The JACKAL High Mobility Weapons Platform is based on the High Mobility Transporter (HMT) family of vehicles developed by Supacat Limited, now part of SC Group. Between 2007 and 2011 the British Army procured several hundred of the JACKAL 1, JACKAL 2 and JACKAL 2A variants in order to address an Urgent Operational Requirement (UOR) by troops deployed to Afghanistan under Operation HERRICK for a highly mobile, protected fire support and patrol vehicle. With the ISAF deployment of the British Army completed it was decided to integrate 441 JACKAL High Mobility Weapons Platforms into its Core Fleet.*

**T**he first JACKAL, later suffixed with 1, High Mobility Weapons Platforms entered service with the British Army in November 2007 and fielding in Afghanistan started in early 2008. On Operation HERRICK the vehicles mainly replaced the **Land Rover Defender 110 XD Wolf FFR WMIK** (Weapons Mount Installation Kit) and the better protected **Defender 110 R-WMIK+** variant. While the Land Rovers had served the troops well in Afghanistan as reconnaissance and



03.





**04.**

**01: IN TOTAL 202 JACKAL 1 HMWPS WERE PROCURED BY UK MOD IN TWO BATCHES IN 2007 AND 2008 - THESE VEHICLES SERVED WITH THE RAF REGIMENT IN SOUTHERN AFGHANISTAN IN 2010**

**02: JACKAL 1 IN SERVICE WITH THE 3RD BATTALION THE PARACHUTE REGIMENT IN 2015 - THE JACKAL 1 CAN EASILY BE DISTINGUISHED BY THE EXTERNAL SPARE WHEEL MOUNTS**

**03: UNDER ARMY 2020 STRUCTURE THE AIR ASSAULT/PARACHUTE INFANTRY BATTALIONS FIELD A TOTAL OF TWELVE JACKAL 1 HMWPS APIECE IN THE ANTI-TANK PLATOON OF THE SUPPORT COMPANY**

**04: THE JACKAL 1 IS FITTED WITH A CUMMINS ISBE 5.9-LITRE, SIX-CYLINDER, EURO III, TURBOCHARGED DIESEL ENGINE THAT DEVELOPS 185HP GIVING A TOP SPEED OF 129KM/HR ON ROADS**

**05: THE JACKAL 1 HMWP HAS A CREW OF THREE CONSISTING OF DRIVER, VEHICLE COMMANDER AND HEAVY WEAPON OPERATOR - THIS JACKAL 1 IS IN SERVICE 2 PARA**

**06: A TOTAL OF 140 JACKAL 2 HMWPS WERE PROCURED BY UK MOD - THESE JACKAL 2S WERE OPERATED BY THE 9TH/12TH ROYAL LANCERS IN SOUTHERN AFGHANISTAN IN 2011**



**05.**

fire support vehicles, they lacked the required high level of ballistic and mine protection.

A total of 202 JACKAL 1 High Mobility Weapons Platforms were ordered in two batches in 2007 and 2008, with another about 30 being procured later as replacements for vehicles damaged beyond repair in battle. In Afghanistan the vehicles were mainly employed for reconnaissance tasks, providing manoeuvre support to dismounted operations, mobile patrolling,



**06.**

convoy protection, route protection, interdiction operations and cordon & search operations.

## **TECHNOLOGY**

The all-welded steel chassis of the JACKAL 1 HMWP is of the space frame type and has a box section structure. The cab is situated at the front, above the front axle, and offers space for two. The driver is seated on the right and the vehicle commander on the left. A robust roll cage provides protection for the crew in case of a rollover.





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A hydraulic winch manufactured by **Red Winches** is installed at the front, below the cab. The engine and transmission are positioned in the area behind the cab. The JACKAL 1 HMWP is fitted with a **Cummins ISBE** 5.9-litre, six-cylinder, Euro III, turbocharged diesel engine that develops 185hp. The engine is connected to an **Allison 2500** five-speed automatic transmission with five forward gears and one reverse gear. A two-speed transfer case operated by a pneumatic selector allows the vehicle to be operated in high and low ranges as well as to isolate the gearbox for towing operations.

The vehicle can be driven in all-wheel drive or in two-wheel drive. The final-drive units have limited-slip differentials.

Epicyclic hubs transfer power to wheels fitted with **Michelin X** 335/80R 20 XZL tyres. The steering system is power-assisted and works on the front wheels. The vehicle has a turning circle of 12,500mm.

The brake system features air-over-hydraulic-actuated 360mm ventilated outboard discs and is fitted with ABS. The key technology of the vehicle is its independent suspension system that offers the vehicle outstanding off-road capabilities. It is of the double-wishbone type and includes two hydro-pneumatic shock absorbers per wheel station and an integrated, adjustable ride height level control system that can be set to the positions of air out/kneeling (180mm

**07: FROM THE OUTSIDE THE JACKAL 2 CAN BE EASILY DISTINGUISHED FROM THE JACKAL 1 BY ITS SPARE WHEEL MOUNTS BEING POSITIONED INSIDE THE BALLISTIC PERIMETER**

**08: 1ST BATTALION IRISH GUARDS ON PATROL IN AFGHANISTAN IN EARLY 2011 - THE FIRST VEHICLE IS A JACKAL 2, WHILE THE SECOND IS A JACKAL 2A**

**09: A BATCH OF 140 JACKAL 2A HMWPS WAS PROCURED BY UK MOD IN 2010 - THIS VEHICLE WAS OPERATED BY 3 PARA IN SOUTHERN AFGHANISTAN IN EARLY 2011**

**10: AT 5,790MM LONG THE JACKAL 2A IS 250MM LONGER THAN JACKAL 1 - THE JACKAL 2A CAN BE DISTINGUISHED FROM THE JACKAL 2 BY ITS FRONT DOOR LATCHES**

**11: SOUTHERN AFGHANISTAN, FEBRUARY 2011 - A 16 AIR ASSAULT BRIGADE JACKAL 2A HMWP PROVIDES SECURITY DURING A CORDON AND SEARCH OPERATION**





ground clearance), on-road (280mm ground clearance), off-road (380mm ground clearance) and maximum (530mm ground clearance). The suspension carriers are attached to the welded-steel chassis.

The vehicle has two fuel tanks, one mounted on the left side and the other at the rear; in total these can hold 202 litres. On one tank filling the vehicle has a maximum road range of 800km. On roads JACKAL can reach a top speed of 129km/hr while up to 89km/hr is possible when travelling over rough terrain. It can ford water obstacles up to 1,000 mm deep, climb gradients up to 45° and traverse slopes with an angle of 35°.



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The JACKAL 1 HMWP has a gross vehicle weight of 6,550kg. It is 5,540mm long, 2,000mm wide and 2,530mm high (with the level control system set to extreme terrain). The armament of the vehicle comprises a 7.62x51mm L7A2 GPMG mounted in front of the commander's seat in a swing mount manufactured by **Istec Services Limited**, a smoke grenade discharger system with batteries

of four launch tubes each mounted at all four corners of the vehicle and a 12.7x99mm L111A1 QCB heavy machinegun or 40mm L134A1 GMG (grenade machine gun) installed in the ring mount fitted to the roll-cage of the vehicle. Other systems fitted include an ECM/EECM RCIED system, **Bowman** communication equipment, a Pegasus range compass manufactured by **SIRS Navigation Limited** and infra-red (IR) lights.

## JACKAL 2 HMWP

Right from the beginning the JACKAL 1 High Mobility Weapons Platforms proved themselves well during operations in Afghanistan and were praised by their operators. Therefore it is no surprise that the UK Ministry of Defence decided to order additional examples in order to increase the Forces' inventory of protected mobile fire support vehicles.

In April 2009 another 120 JACKALS were ordered from Supacat Limited. These were JACKAL 2 HMWP that featured many modifications compared to the initially produced batches. Most of the modifications were based on experiences learned in Afghanistan. The JACKAL 2 HMWP features a different engine in form of the Cummins ISBE 6.7-litre, 6-cylinder, turbocharged, inter-cooled diesel engine, as the power pack previously fitted to the JACKAL 1 was no longer produced. The ring mount for the heavy machine gun and the grenade machine gun was installed at a higher point and further forward in order to allow a



A CLOSER  
LOOK AT  
THE LATEST  
VARIANT

# JACKAL 2A HMWP



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more unrestricted use of the heavy weapons.

The JACKAL 2 also features a larger cargo bed with racks for jerrycans that can be hinged outwards. The spare wheel mounts are now situated inside the ballistic perimeter armour. An additional seat was also installed next to the one in the area below the ring mount, allowing the vehicle to operate with a crew of four or to



14.

transport a passenger or interpreter. The JACKAL 2 has a kerb weight of 5,760kg and a gross vehicle weight of 7,600kg.

## JACKAL 2A HMWP

In May 2010 the Ministry of Defence ordered another batch of JACKALS. These 140 vehicles were all delivered by 2011 and again featured several improvements; to differentiate



15.

they were given the designation JACKAL 2A. The JACKAL 2A variant features increased ballistic and mine protection and a revised cab, made of steel instead of aluminium, that has integrated blast protection. The ballistic protection kit fitted to the vehicle is based on the Modular Armour Protection Installation Kit (MAPIK) developed by **Jankel Armouring Limited**. The JACKAL 2A High Mobility Weapons Platform is





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5,790mm long, 2,050mm wide and between 1,885mm and 2,445mm high (dependent on the setting of the level control system).

## INTO CORE VEHICLE FLEET

On the 16th of December, 2013, with the end of *Operation HERRICK* in 2014 already in sight, the

Parliamentary Under-Secretary of State for Defence, Mr **Philip Dunne**, declared that some 2,000 Protected Mobility Vehicles procured as UORs would be integrated into the core vehicle fleet of the British Army; among them 441 JACKAL 1, 2 and 2A High Mobility Weapons Platforms. It was later decided to equip the Light Cavalry Regiments, newly formed under the new Army 2020 structure, as well as the Support Companies of the Air Assault/Parachute Infantry Battalions and Mechanised Infantry Battalions of the regular forces with JACKALS.

Belonging to the **16 Air Assault Brigade**, the Air Assault/Parachute Infantry Battalions form part of the newly constituted **Reaction Force** of the British Army, while the the Light Cavalry Regiments and the Mechanised Infantry Battalions belong to the new **Adaptable Force**. Of the three Light Cavalry Regiments, each can field three Sabre Squadrons equipped with twelve JACKAL 2s or JACKAL 2As each. Within the Air Assault/Parachute Infantry Battalions, the Anti-Tank Platoon of the Support Company is equipped with a total of twelve JACKAL 1s. In the **Mechanised Infantry Battalions** the Anti-Tank Platoon and the Reconnaissance Platoon of the Support Company can each field six JACKAL 2s or JACKAL 2As.

## WELL SUITED FOR ROLE

With the JACKAL, regardless whether it is a 1, 2 or 2A variant, the units equipped with the vehicle under the Army 2020 structure



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have received an extremely capable vehicle that, in addition to an outstanding off-road performance, also offers a certain degree of ballistic and mine protection. Its armament, consisting of a GPMG and a heavy machinegun or grenade machinegun, suits the vehicle well for its role as fire support platform but also qualifies it for the reconnaissance role, allowing its crew to return heavy fire when running into trouble.

12: THE JACKAL 2A HAS A CREW OF FOUR AND ITS ARMAMENT CONSISTS OF A 7.62MM GPMG AND A 12.7MM QCB HEAVY MACHINEGUN OR A 40MM L134A1 GMG

13: DRIVER'S POSITION

14: COMMANDER'S MACHINEGUN

15: FRONT BLAST-PROTECTED SEATS

16: TOP GUNNER'S POSITION

17: SMOKE GRENADE DISCHARGER SYSTEM

18: REAR BLAST-PROTECTED SEATS

19: REAR CARGO BED ACCESSED VIA A TAILGATE

20: ALL JACKALS USE MICHELIN X 335/80R 20 XZL TYRES

21: REAR JERRycan RACK FOLDED UP AND IN

22: REAR JERRycan RACK FOLDED DOWN AND OUT



## CAMO EXTRA

# SCORPION W2

## US OPERATIONAL CAMOUFLAGE PATTERN

FIRST MADE AVAILABLE IN MID-2015 FOR US ARMY PERSONNEL DEPLOYING OPERATIONALLY TO AFGHANISTAN, IRAQ AND EUROPE, UNIFORM GARMENTS IN THE NEW OPERATIONAL CAMOUFLAGE PATTERN MATERIAL WERE WORN BY SOME SOLDIERS DURING THE MULTINATIONAL EXERCISE TRIDENT JUNCTURE '15 IN SPAIN. A DERIVATIVE OF THE ORIGINAL SCORPION PATTERN DEVELOPED BY CRYE PRECISION FOR THE US ARMY, WHICH WAS SUBSEQUENTLY MODIFIED TO GIVE THE COMMERCIAL MULTICAM PATTERN, THE W2 VERSION USED FOR OCP GARMENTS HAS NONE OF THE VERTICAL 'TWIG' ELEMENTS FOUND ON MULTICAM OR ITS BRITISH MTP DERIVATIVE. THE SCORPION W2 OCP WEARER IN THIS PHOTO, TAKEN ON THE CENAD SAN GREGORIO TRAINING AREA, IS LIEUTENANT GENERAL FREDERICK 'BEN' HODGES, COMMANDING GENERAL OF US ARMY EUROPE. [© BOB MORRISON]



PHOTO © BOB MORRISON



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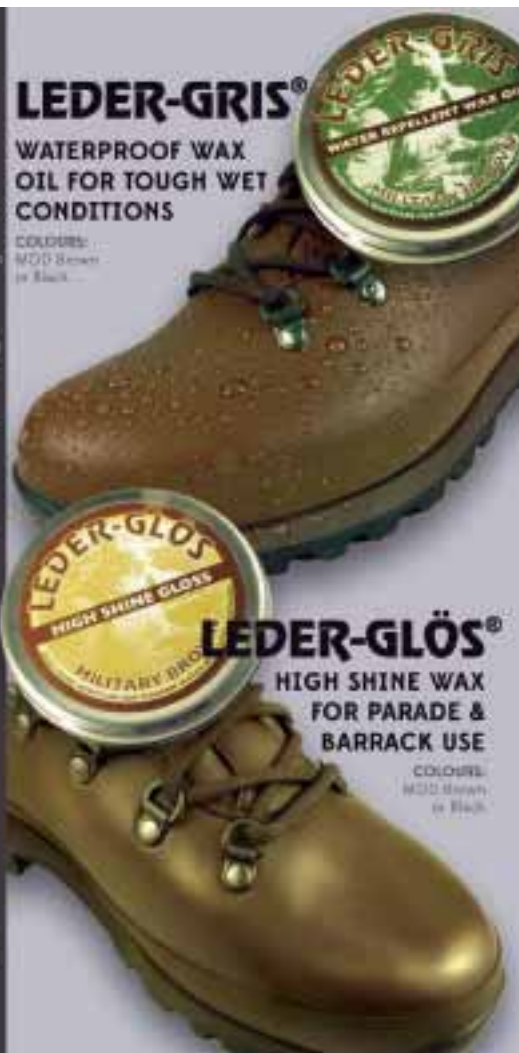
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# SURVIVING FIRE

**Remember the tale of the Great Fire of London which started in a baker's shop in Pudding Lane? Fires in urban areas spread quickly and the casualties and costs soon mount up. The high density living, tower blocks and sheer number of people make fires, both accidental and deliberate, extremely dangerous. Is your home properly protected, do you know the risks? If you work or study in a large building, do you know the fire exits, how to use the various types of fire extinguisher and what to do if the drill turns out to be real?**

## STATISTICS

**T**he UK Fire Services get called to attend around 200,000 fires a year, 40,000 of which are house fires. These house fires cause more deaths than fires in office blocks and public buildings, and account for 80% of all fire related deaths. Alarmingly, one fifth of all non-natural deaths in the UK are from house fires, a majority of which occur between midnight and 5am.

Still too few homes have smoke alarms, and houses without them

account for nearly 40% of fire related deaths. In many tragic fires where smoke detectors are fitted but lives are lost, failure to replace an inexpensive battery is often a key factor.

Non-residential buildings would appear statistically safer, probably because of Health & Safety legislation, proper fire exits, extinguishers, etc. Employers, shop owners, government departments etc. all take their responsibilities seriously and have regulations to comply with if they admit the public into their building. Conversely, home

owners think fires only happen to other people and do too little to protect their house.

## COMMON CAUSES

By far the most common cause of death in an accidental fire is from smokers' materials, e.g. cigarettes, matches not quite extinguished, etc. Kitchen appliances are also a danger as they cause more than 50% of all accidental fires in homes; many people still don't know how to deal with chip pans.

Another common cause of fires in





01. MODERN HIGH RISE LIVING  
POSES GREAT CHALLENGES IF AND  
WHEN FIRE BREAKS OUT - THIS IS  
DUBAI WHERE A MAJOR FIRE IN A  
300 METRE HIGH SKYSCRAPER ON  
NEW YEAR'S EVE MADE HEADLINES  
AROUND THE WORLD [© BOB  
MORRISON]

02. BE AWARE OF THE DIFFERENT  
TYPES OF FIRE EXTINGUISHER AND  
LEARN HOW TO USE THEM

03. PUBLIC BUILDINGS ARE BETTER  
PROTECTED AGAINST FIRE BUT YOU  
CAN ENSURE SURE YOUR HOME AT  
LEAST HAS BASIC SMOKE ALARMS

By **JASON POLLEY**

**“ONE FIFTH OF ALL NON-NATURAL DEATHS IN  
THE UK ARE FROM HOUSE FIRES, A MAJORITY OF  
WHICH OCCUR BETWEEN MIDNIGHT AND 5AM.”**

the home is poor electrics: overload-  
ed sockets, cheap and faulty phone  
chargers, and simply out of date wir-  
ing. Knocking over portable heaters  
is another major cause of fires in the  
home.

Failure to rapidly evacuate large

buildings and sports/music venues  
can be a real problem in the event of  
a fire, resulting in deaths and injuries.  
Learn from this, and note exits and  
fire escapes. If you work in such a  
place, take fire drills seriously because  
the real thing could engulf you in suf-  
focating and toxic fumes in seconds.



## FLASHOVER AND FLASHPOINT

**Flashover** is when the air  
temperature gets so hot that things  
not even near the flames start  
bursting into flames. Breathing in  
the air at this point will burn your  
airways, making your surviving  
extremely unlikely.

**Flashpoint** is the lowest temperature  
at which a substance will ignite.  
Highly flammable liquids can ignite  
at less than 23°C, making them very  
dangerous and they have to be  
stored at low temperatures.

## FIRE INJURIES

Obviously fires can kill, but not  
always in the way you might think.



## URBAN SURVIVAL

Burns account for only 20% of fire-related deaths, with the **single largest cause of death and injury coming from inhalation of smoke and toxic fumes**. The smoke incapacitates so quickly that people fail to make it to an exit before they are even affected by the actual fire and heat.

**Carbon monoxide** is the most toxic gas, and can kill even in small quantities as it replaces oxygen in the bloodstream. Nasty and odourless. **Hydrogen cyanide** results from burning plastics, and phosgene from vinyl materials – both can kill.

Fires need oxygen to burn, but so do you to survive. Therefore, as the fire burns, the amount of available oxygen in the room/building decreases. Normal air has about 21% oxygen, and during a fire this will become reduced. Once down to 17% your judgement will become impaired, and by 12% you will be dizzy and feeling fatigued. If the oxygen level drops to 9% you will be unconscious, and very soon dead.

The other risk is from structural damage to the building you

Images © Bob Morrison & Jason Polley

04

# CAUSES, RESPONSE & PREVENTION

04. RAPID EVACUATION IS THE KEY ISSUE IF LARGE BUILDINGS CATCH FIRE - KNOW YOUR ESCAPE ROUTES

05. ONE FIFTH OF ALL NON-NATURAL DEATHS IN THE UK ARE FROM HOUSE FIRES, A MAJORITY OF WHICH OCCUR BETWEEN MIDNIGHT AND 5AM [© BOB MORRISON]

06. FIRE DRILLS SAVE LIVES AND ACCELERATE EVACUATIONS SO TAKE THEM SERIOUSLY

07. KITCHEN FIRES ARE STILL VERY COMMON SO BE AWARE OF THE RISKS AND HAVE A FIRE BLANKET CLIPPED TO A WALL

08. THE SMOKE AND TOXIC FUMES GENERATED BY A FIRE KILLS MORE PEOPLE THAN THE HEAT





05



06

are in. Many homes and buildings are partly of timber construction so when the building burns, it may collapse, causing further injuries.

## RAPID RESPONSE

In all cases, sound the alarm first and make sure others in the building know of the fire.

■ **If you are on fire:** do not run, that will fan the flames. Instead roll on the ground or wrap yourself in a rug, blanket or something non-flammable and smother the flames.

■ **Electrical fires:** turn off the power and smother the fire with a carpet or use a foam fire extinguisher (the blue one) not the red one, which contains water.

■ **Furniture or carpets on fire:** because they could be emitting toxic fumes, evacuate immediately unless the fire is still small, in which



07



08

case try to extinguish with water or a rug/jacket/blanket.

■ **Fat fires:** turn the cooker off but do not move the pan. Smother with a chopping board, pan lid, fire blanket or slightly damped towel.

## JUMPING TO SAFETY

Usually as a last resort, but lower yourself down as much as you can, perhaps using sheets tied together as a rope to reduce the fall by a few metres. Throw out mattresses, cushions, pillows, etc. to soften the fall.

## FIRE PREVENTION

Fires cannot always be prevented, but their effects can be reduced. For example:

- Install fire alarms and smoke detectors, including carbon monoxide sensors, particularly if the house has gas heating.
- Have different types of fire extinguisher, and know how to use them. For example, red contains water so should not be used on oil/fat or electrical fires; blue is a foam and black is carbon dioxide, both are suitable for electrical fires.
- Have fire blankets in kitchens.
- Create fire exits, mark them with luminous signs and keep them unobstructed. Consider the use of having emergency fire ladders available.
- Fireproof treat furniture, carpets and curtains, as well as clothing if you work with flammable substances.
- An emergency smoke hood can assist escape through toxic gases caused by burning plastics.
- Practise fire drills, and if outside the UK know how to call the fire bridge: For example, Canada and the US - 911, Europe - 112, Australia - 000, New Zealand - 111 and UAE 997.



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[© BOB MORRISON]

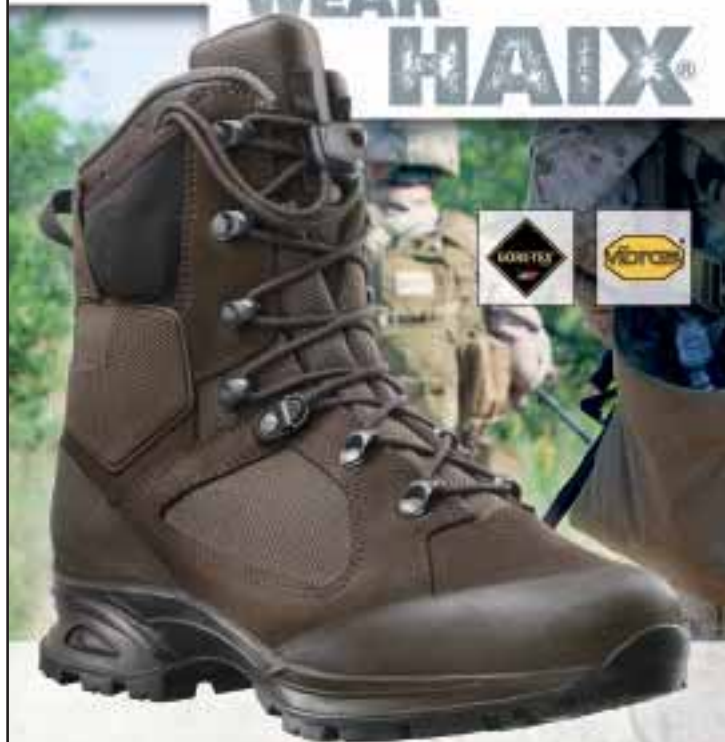






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## SECURITY INDUSTRY

# GLOBAL ISIL/DA'ESH

## IS IT REALLY INCREASING IN CAPABILITY?

**R**ecent attacks in **Jakarta** and **Ouagadougou** have left the West in shock at yet more deaths at the hands of Islamist terrorists. Added to other recent attacks in Paris, it would seem that the capability of ISIL, the religious fundamentalist group which has proclaimed itself as the Islamic State In The Levant, to strike effectively anywhere in the world it chooses is on the increase... but is that true?

On 15th January there was an attack on a police station in Jakarta which killed four and injured twenty five. Five of the terrorists died in their attack and a further four were captured by security forces. The terrorists were members of **Katibah Nusantara**, who carried out the attack on behalf of ISIL and whose leader is **Bahrin Naim**. He planned and orchestrated the attack from Syria, which seems to be the current trend, having locals strike in their homeland but having the attacks planned abroad under the banner of ISIL. Naim's vision is to unite all ISIL-supporting elements in Southeast Asia; e.g. Indonesia, Malaysia and the Philippines. Despite his vision the terrorists attack was amateurish and was described as a failure by Indonesian security forces.

The small impact of the attack could be seen as a success of Indonesian security forces and their ability to resist ISIL but it also raises concerns about the advance of ISIL in the region, and is a wake-up call for Southeast Asian nations. Although ISIS only attracts a fringe minority of support in the world's most populous Muslim country, security authorities warn that ISIL represents a new generation of terrorists that are more lethal than their al-Qa'ida predecessors. That is why Indonesia has received financial and security training assistance from the US, Australia and others.

Indonesia is about 90 percent Muslim and has a secular national government. It has small but influential Christian, Hindu and Buddhist minorities and a tradition of tolerance toward other religions. Support for ISIL in Indonesia

is weak, if not non-existent, in political terms. Every time the idea of an Islamic state has come up, it has failed tremendously. The problem is that you only need a very small number of people to become a terrorist group capable of manufacturing and using IEDs.

Therefore Indonesia cannot afford to underestimate the threat from the Islamic State. The police had received prior intelligence that IS was going to carry out an attack. In the weeks leading up to the attack, the security forces arrested 16 terrorism suspects, but failed to uncover the plot. Some young Indonesians are being radicalised and recruited by ISIL, especially through social media, where certain Malaysians and Indonesians fighting in Syria have won large followings. The number of Indonesian fighters estimated to have joined ISIL in Syria is between 500 and 700; Malaysia follows with roughly 200, with an additional 120 arrested before they made it to Syria.

Just like the West, Indonesia worries about the issue of returning Indonesian fighters and has agreed to allow for passports to be revoked. The military are on increased alert and they have planned exercises in areas which have groups linked to ISIS. There is also a concurrent softer approach focusing on how cultural and religious approaches should be used, and poverty tackled, to reduce

radicalisation. Despite the fears there is no sign that there is a mass insurgency waiting to explode. While 700 fighters' sounds a lot, relative to

the Indonesian Muslim population of 200 million it's small and, as a Muslim majority democratic country, Indonesia has the opportunity to legally allow people to vent their dissatisfaction. Even when ideas are extreme, they can be discussed and discredited within the normal political framework.

The attack next day in Ouagadougou in Burkina Faso was carried out by **Al-Qa'ida in the Islamic Maghreb** (AQIM) group, which killed 28 people from 18 countries and injured 56. It was planned by **Mokhtar Belmokhtar** and was on the *Splendid Hotel*, which was popular with UN workers and foreign residents. At least four of the attackers died in the assault. Two terrorists were women and others were children. Burkinabe Special Forces, with support from the French military and US intelligence, took back the hotel and freed 126 hostages.

The attack is a setback for French COIN (counter-insurgency) operations in West Africa after four years of French operations against jihadist networks across five countries in the region.

Despite this, groups such as AQIM seem

able to mount new attacks that are planned and conducted across borders. Burkina Faso and Mali have agreed to work together to counter the growing threat of Islamic militants in West Africa by sharing intelligence and conducting joint security patrols following two deadly and well-coordinated attacks in the region.

So it would seem that the terrorists in Africa are more effective than their peers in Asia at this moment and that years of capacity building and COIN operations in Africa cannot prevent more attacks.

**ROBERT SHAW** of **Optimal Risk Management Ltd.** (**OptimalRisk.com**) is a former British Army ATO and IEDD/ WIS Operator turned EOD Threat and Counter-IED Trainer and Consultant.



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01

# \*ARMOURIED BATTLE

## COMBINED ARMS MANOEUVRE DEMONSTRATION

Last March the **C&S** team spent a fair bit of time across Southern England covering the various phases of Ex. TRACTABLE, watching 3 [UK] Division's Lead Armoured Task Force assembling and then deploying on manoeuvres by road, rail and sea before reassembling its spearhead Lead Armoured Battle Group, provided by 12th Armoured Infantry Brigade, for a demonstration attack on Salisbury Plain to the west of Imber village. Roll forward to October and the LABG had deployed to North-East Poland on the multinational Exercise DRAGON, which Carl reported on last month, but back in the UK others were still training hard.



02

**W**hile the LABG, formed around the 1st Battalion of The Yorkshire Regiment supported by C Squadron of The King's Royal Hussars, plus a Combined Service Support Group deployed to Poland other 3 [UK] Division components assigned

to the British Army's **REACTION FORCE** mounted a **Combined Arms Manoeuvre Demonstration [CAMD]** on the SPTA (Salisbury Plain Training Area). Although in many ways similar to the Combined Arms Demonstration undertaken by the **1 YORKS battlegroup** at the end of **Ex. TRACTABLE** last March (see July and August '15 issues) the smaller





**01: PANORAMA OF THE BATTLEFIELD - KNOCKED OUT ARMOUR HULKS ARE RINGED IN RED AND JUST TO THEIR LEFT CAN BE SEEN A PAIR OF WARRIORS SUPPORTING THE ARMoured ENGINEERS ON THE DUSTY TRACK**

**02: ON HEARING THE INITIAL ARTILLERY BOMBARDMENT COMMENCING THE OPFOR TROOPS, ARMED PRIMARILY WITH AK-47 KALASHNIKOV'S AS HERE AND RPGS, TAKE TO THE TRENCHES**

**03: TROJAN, FLANKED BY RE SPARTAN, RTR SCIMITAR AND 1 RRF WARRIORS SIMULATES A BREACH THROUGH THE MINEFIELD WHICH IS MARKED WITH ORANGE POLES FOR OUR BENEFIT**

**04: BEHIND THE TROJAN RTR CHALLENGERS PUNCH THROUGH THE MINEFIELD AND VANISH IN PAIRS INTO DEAD GROUND ONLY TO POP UP ELSEWHERE AND SIMULTANEOUSLY ENGAGE THE ENEMY**

**05: AS THE CHALLENGERS ADVANCE THE APACHES UNMASK AND SUPPORT THE ATTACK WITH THEIR MISSILES, ROCKETS AND CHAIN GUNS**

**06: HAVING KNOCKED OUT THE OPFOR PERSONNEL CARRIERS THE CHALLENGERS SWEEP PAST THE TRENCHES TO BLOCK ANY COUNTER-ATTACK BY ENEMY RESERVES**



# GROUP (PT.2)

CAMD differed in being held on a different range, this time around 15 kilometres to the east of Imber and just to the north of Larkhill, plus the battlegroup was formed around a Royal Tank Regiment formation rather than an infantry battalion.

Formed around *BADGER* and *DREADNAUGHT* Squadrons from the Royal Tank Regiment, supported by W and Y Squadrons from 1st Battalion the Royal Regiment of Fusiliers, this battlegroup was drawn from 1st Armoured Infantry Brigade. This is the other 3 DIV brigade currently based in the UK, alongside 12th Armoured Infantry Brigade, but under the ARMY 2020 restructuring they will be joined by 20th Armoured Infantry Brigade, currently based in Germany, which will also be garrisoned in the Salisbury Plain area to bring all major 3 [UK] Division component formations into close proximity.

In the January issue (sorry, we ran out of pages to bring you this part last month) we watched as the Royal Tank Regiment LABG successfully mounted a defence against an enemy armoured probe to the North-West of the battlegroup's location. During this phase of the demo, which was primarily laid on to demonstrate the capabilities of an LABG when operating as part of a Vanguard

Images © Bob Morrison





## BRITISH FORCES



Infantry Brigade within the new Reaction Force context to Defence Academy students and officers attending courses at Warminster and Larkhill, live ammunition was used by artillery, infantry and armour participants.

At the conclusion of the defensive phase, after a short break to make weapons safe and swap live ammunition for blanks, the now distant formation turned around and, supported by Royal Engineer armoured assets, went on the attack in a Dry Manoeuvre demo. This time

we observers were now behind the defenders, played by a platoon of 'Men In Blue' OpFor (Opposing Forces) from Y Company of the First Fusiliers clad in Urban DPM camouflage uniforms and carrying Soviet or Chinese weaponry with a pair of FV510 Warrior Infantry Fighting Vehicles now re-roled as OpFor armour. Naturally, as the battlegroup was now advancing on occupied positions, with hundreds of observers positioned well under 100 metres behind, blank ammunition rather than live was used during this phase.

The advance commenced following a reconnaissance mission by a Desert Hawk 3 UAV (Unmanned Aerial Vehicle) operated by 32 Regiment Royal Artillery, who were supporting the attack with a battery of four AS90 self-propelled gun-howitzers. Next a Close Reconnaissance Troop, consisting of eight CVR(T) Scimitars from *DREADNAUGHT* Squadron, probed forward to the enemy minefield blocking the line of advance and then a Trojan AVRE (Armoured Vehicle Royal Engineers) from 52 Armoured Engineer Squadron of 22 Engineer Regiment,

08



**"CHALLENGER 2 MAIN BATTLE TANKS FROM BADGER SQUADRON IMMEDIATELY PUNCHED [THEIR] WAY THROUGH AND BOMB-BURST INTO DEAD GROUND EITHER SIDE."**





accompanied by CVR (T) Spartan engineer recce vehicles, was called forward to create a breach with its mine plough.

On either side of the Trojan a platoon of armoured infantry transported in Warriors provided close support and, not visible from our location, four Stormer Air Defence Vehicles from 12 Regiment Royal Artillery defended the advance with their Starstreak High Velocity Missiles. Just behind the woods in which the bulk of the Armoured Infantry Assault Company from 1 RRF, mounted in 14 Warriors



**07: CLOSELY SUPPORTED BY THE NOW LOW FLYING APACHE HELICOPTERS THE WARRIORS DESCEND AT SPEED ON THE OPFOR POSITIONS WITH ALL GUNS BLAZING**

**08: ANOTHER RTR CHALLENGER, ONE OF A MUTUALLY SUPPORTING PAIR, OUTFLANKS US TO THE LEFT - POWERED BY A 26-LITRE V12 ENGINE THE TANK CAN EASILY MANOEUVRE OFF-ROAD AT OVER 40KM/HR**

**09: AH1 APACHE HELICOPTER IN A LOW PASS - NORMAL LOAD WHEN SUPPORTING AN INFANTRY ADVANCE IS 8X HELLFIRE, 2X19 75MM ROCKETS AND 1200 30MM CANNON ROUNDS**

**10: FUSILIERS DEBUS FROM THEIR WARRIORS TO ENGAGE OPFOR INFANTRY - CHIEFTAIN AVRE HULK BEHIND WAS TAKEN OUT BY A MISSILE DURING THE EARLIER DEFENSIVE ACTION**

**11: BEHIND COVER OF A SMOKE GRENADE AN INFANTRY FIRE TEAM ASSAULTS THE FIRST LINE OF ENEMY-HELD TRENCHES AS THEIR WARRIORS SUPPORT THEM**

**12: WITH FIRST TRENCH LINE SEIZED AND OCCUPIED THE INFANTRY TACKLE THE NEXT LINE OF POSITIONS MOVING FORWARD IN MUTUALLY SUPPORTING PAIRS**

plus FV432 Bulldog infantry carriers and ambulances, was hiding out of sight of the radar domes a brace of AH1 Apache attack helicopters from 4 Regiment Army Air Corps which could occasionally be detected briefly popping up.

Once the Trojan had successfully breached the minefield, the Armoured Squadron of twelve Challenger 2 Main Battle Tanks from *BADGER* Squadron immediately punched its way through and bomb-burst

into dead ground either side. The tanks were followed by Y Company in their Warriors, who also quickly vanished by making good use of the terrain dips between the minefield breach and their objective.

The next we saw was pairs of Challengers appearing in hull down positions to engage the OpFor's support armour, and as they advanced at speed the Apaches popped up to support them with (notional) fire using their Hellfire missiles, CRV7 rockets and M230 30mm chain guns. Behind the tanks





13

## ***“THE FUSILIERS’ WARRIORS, NOW CLOSELY SUPPORTED BY THE ARMY AIR CORPS APACHES, RAPIDLY DESCENDED ON THE ENEMY TRENCHES AND THE TROOPS DEBUSSED TO ASSAULT AND CAPTURE THEM IN A CLASSIC INFANTRY ACTION”***

the Fusiliers’ Warriors, now closely supported by the Army Air Corps Apaches, rapidly descended on the enemy trenches and the troops debussed to assault and capture them in a classic infantry action; though under peacetime Health & Safety regulations blank firing attachments rather than bayonets were fitted to the barrels of their SA80A2 assault rifles.

The **Combined Arms Manoeuvre Demonstration** concluded with a mop-up of the enemy positions and the gallant, but overwhelmed, Men In Blue were rounded up with their weapons and conveyed away in Bulldog infantry carriers with the casualties from both sides being taken off the battlefield in Bulldog ambulances. Later this year an 800-strong Lead Armoured Battle

Group will deploy to Poland on the multinational **Exercise ANAKONDA** and, at time of writing, it has just been confirmed by the MoD that during 2020 a 1000-strong UK battlegroup will participate in NATO’s **Very High Readiness Joint Task Force** under Polish command.

Images © Bob Morrison



14



15

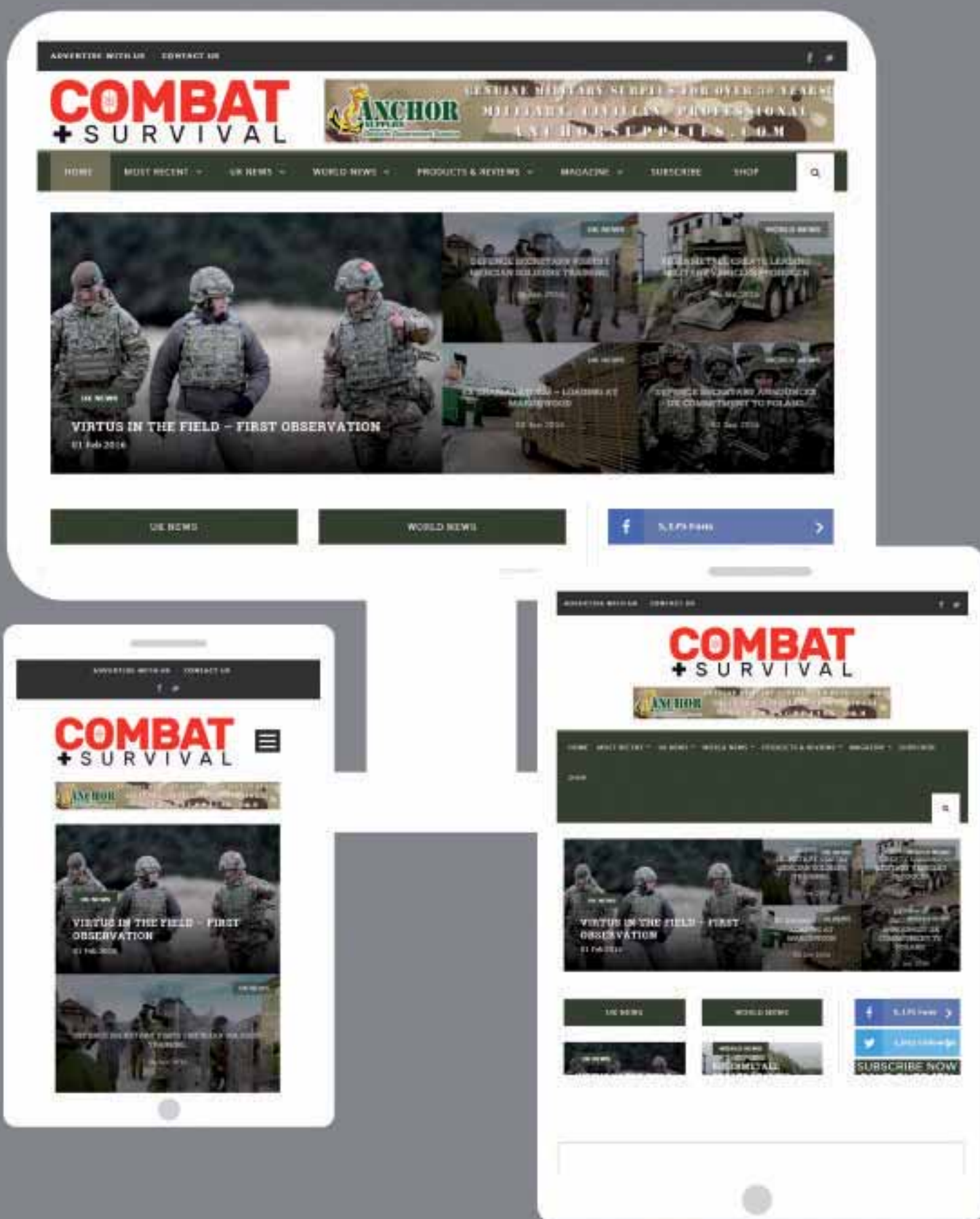
**13: ENDEX FOR AN OUT-GUNNED OPFOR DEFENDER - THE WARRIOR HAS A 30MM GARDEN CANNON BUT IN THIS ACTION IT IS ITS 7.62MM COAXIAL MG THAT IT IS USING**

**14: IN SERVICE SINCE 1988, THE WARRIOR FLEET IS BEING UPGRADED TO FURTHER PROLONG ITS LIFE UNTIL 2040 WITH AROUND 450 VEHICLES RECEIVING NEW DESIGN TURRETS**

**15: ALTHOUGH THE PREDECESSOR TO WARRIOR THE YOUNGEST OF THE FV432 FLEET, ALBETT THE UPGRADED BULLDOG VARIANT, IS OVER 45 YEARS OLD YET IS STILL IN SERVICE**



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01: OVERVIEW OF THE ENEMY-HELD CASA ALTAS URBAN COMPLEX FROM OUR OBSERVATION POINT - THE NATO ARMoured AND MECHANISED ADVANCE WAS FROM OUR RIGHT

02: ON THIS LONG RANGE PHOTO A SUSPICIOUS WHITE OPFOR PICK-UP TRUCK HAS DRAWN UP OUTSIDE A COMPOUND ON THE EDGE OF CASA ALTAS

02A: THIS SCREEN GRAB REVEALS THAT THE IRREGULARS HAVE CAPTURED A DOWNED AVIATOR WHO HAS BEEN PUT IN AN ORANGE BOILER SUIT [© NATO TV]

# TRIDENT JUNCTURE '15

PART 3

01

## AIR ASSAULT & HOSTAGE RESCUE PHASE

**Exercise TRIDENT JUNCTURE, the NATO Alliance's most important exercise in 2015 and a flagship activity for its Connected Forces Initiative, was the largest exercise it had conducted since STRONG RESOLVE in Norway and Poland in 2002. Involving more than 36,000 personnel from over thirty nations, its aim was to: facilitate testing of NATO's Command & Control concept, interoperability, strategic communication, intelligence, surveillance, target acquisition and reconnaissance; and to test the high readiness and technologically advanced multinational NATO Response Force, comprising Air, Land, Maritime and Special Forces contingents operating simultaneously at sea and across several different training areas in three countries.**

**A**fter spending a few days with the British-led multinational brigade on the **CENAD** Chinchilla training area near Albacete in Spain, C&S headed six hours north to the CENAD San Gregorio training area near Zaragoza to document a Spanish-led multinational brigade mounting a multiple phase **Joint Land Heavy Military Demonstration (JLHMD)**. Designed to provide the structure for Alliance and Partner nations to train and exercise coherently and to reinforce full-spectrum (i.e.



02



2a



## ALLIANCE FORCES



03

03: OPFOR (SPANISH) RECCE SQUADS OPERATING IN PAIRS OF PEGASO VEC RECCE VEHICLES ATTEMPTED TO DELAY THE NATO ADVANCE

04: TWO MINUTES INTO THE DEMO A BRACE OF B-52 LONG RANGE STRATEGIC BOMBERS FROM BARKSDALE AIR FORCE BASE IN THE US OVERFLEW CASA ALTAS

05: A BELGIAN ISTAR PATROL MOUNTED IN PANDUR APCs PROVIDED THE BRIGADE COMMANDER WITH REAL TIME INFORMATION ON ENEMY DISPOSITIONS

06: A BATTERY OF SPANISH 105MM LIGHT HOWITZERS DROPS A BARRAGE ONTO THE HILLSIDE BEHIND CASA ALTAS TO NEUTRALISE OPFOR POSITIONS JUST PRIOR TO THE AIR ASSAULT

07: BELGIAN COMMANDOS AND ITALIAN PARAS ARE FLOWN FORWARD BY US CHINOOKS TO BLOCK OPFOR POSITIONS TO THE NORTH OF CASA ALTAS

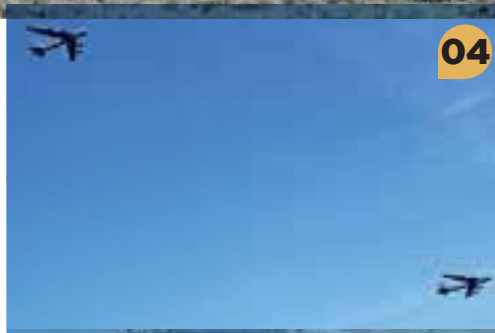
08: DISTINGUISHED VISITORS AND MILITARY OBSERVERS SAW VIDEO SCREEN CLOSE-UPS OF THE ACTION THROUGHOUT THE HOUR-LONG DEMO [© NATO TV]

09: SPANISH ARMY AVIATION BRIGADE EC-765 TIGRE (TIGER) ATTACK HELICOPTERS PROVIDED CLOSE SUPPORT FOR THE HOSTAGE RESCUE OPERATION

Air, Land, Sea and SF) joint and combined training and promote interoperability, **TRIDENT JUNCTURE '15** (TJ15) also tested the **Very High Readiness Joint Task Force** (VJTF) land element, or Spearhead Force, which for 2016 is led by Spain.

The JLHMD was based around a 60-minute dynamic display representing a decisive air-ground offensive operation in which a NATO force consisting of troops and air support from twelve member states conducted an attack against conventional opposing forces and an irregular formation in a time-compressed manner and geospatially compressed battle space. From the enemy commander's perspective, the tactical situation had seen a successful withdrawal over several days during which his forces had avoided strong kinetic engagements with advancing NATO formations, but now his command and control element based in the urban complex of **Casas Altas**, which was also a base for radicalised Irregular Forces, had been surrounded, cornered and degraded. Regular units from Spain and the United States, including specialists using OpFor weapons and tactics, provided a realistic enemy.

The demo, which the Distinguished Visitors and Media witnessed from high ground to the west of the Casas Altas urban complex, comprised four consecutive plus at times simultaneous phases



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commencing with a three-pronged multinational armoured battlegroup approach to an assault line, exploiting air superiority and firepower. The second phase saw a penetration of the OpFor line of defence, breaching of their fortifying obstacles such as minefields and earth bunds, and dispersion of their defence by an air assault behind their urban stronghold by Belgian, Italian and US airborne forces.

Phase three saw decisive engagements on the ground undertaken by the Baltic Battalion (comprising Estonian, Latvian and Lithuanian forces), German, Spanish and US armoured and mechanised forces, including minefield clearance and dismounted infantry attacks

supported by fixed wing and rotary aircraft and artillery from several nations. Simultaneously, a multinational Special Forces Task Unit executed a Hostage Rescue Operation on the edge of the Casas Altas complex, before the fourth phase played out with encirclement and defeat of the OpFor centre of gravity and medevac (medical evacuation) from the battle space.

Although the battle space was deliberately compressed, the entire demo played out over a roughly twenty square kilometre block of undulating terrain in front of our static observation point and the dust, smoke and general fog of war made it very difficult to photograph much of the action during the first





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two phases. It must be borne in mind that this demo was not laid on for the media but for a large group of Distinguished Visitors, including the NATO Secretary General, plus International Military Observers seated in a glass-fronted covered stand with video screens providing close-ups of the action, but as the Hostage Rescue Operation was conducted only about 1500 metres away we were able to capture some of this action for C&S readers and to photograph the helicopters taking part.

At the start of the demo the enemy's heavier elements, comprising light armoured vehicles and infantry forces were deployed to our right screening over a line south of a defensive berm and to our right front a mechanised platoon, consisting of four OpFor (Spanish) recce squads operating in pairs of Pegaso VEC-M1 recce vehicles, attempted to delay the NATO advance. Behind them an OpFor light infantry company and paramilitary units covered the right flank and the Casas Altas urban complex.

11



**"ALTHOUGH THE BATTLE SPACE WAS DELIBERATELY COMPRESSED, THE ENTIRE DEMO PLAYED OUT OVER A ROUGHLY TWENTY SQUARE KILOMETRE BLOCK OF UNDULATING TERRAIN IN FRONT OF OUR STATIC OBSERVATION POINT"**

As the NATO assault force, the VJTF, manoeuvred into position German mountain troops provided a block on the far side of the battle space as a wide range of surveillance assets was used to provide accurate information on enemy dispositions and to build the intelligence picture.

A Belgian ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) Group mounted in Pandur light armoured vehicles was the most obvious of these assets, but out of view a 9-man Romanian LRRP (Long Range Reconnaissance Patrol) had established a covert observation





12

10: US ARMY AH-64 APACHE ATTACK HELICOPTERS DELIVERED SUPPRESSIVE FIRE AS THE CHINOOK-BORNE AIR ASSAULT WENT IN

11: A CZECH SPECIAL OPERATIONS AIR TASK UNIT MI-171 HIP HELICOPTER SWOOPS IN WITH A CZECH SOF SNIPER AND COMMAND TEAM

12: SPANISH SOF PERSONNEL FAST-ROPE FROM A SPANISH CHINOOK TO EFFECT THE HOSTAGE RESCUE - OUT OF FRAME THE TIGRES PIN DOWN IRREGULARS ON THE ROOFTOPS

13: CZECH (LEFT) AND SPANISH SOF ASSAULT TEAMS PREPARE TO

ASSAULT THE COMPOUNDS AND RESCUE THE DOWNED NATO AVIATOR

14: HAVING DROPPED OFF THE SOF OPERATORS THE HIP AND CHINOOK PULL BACK TO A SAFE DISTANCE WHILE THE COMPOUNDS ARE CLEARED

15: FIRST OF THE ADVANCING NATO TANKS CAN JUST BE SEEN BELOW THE WHEELS OF THE EXTRACTING HIP - HELICOPTER - ARMAMENT IS THE M134 MINI-GUN

16: UNDERNEATH AND BEHIND THE SPANISH CHINOOK CAN BE SEEN A PAIR OF NOW KNOCKED OUT OPFOR PEGASO VEC-M1 RECCE SQUAD VEHICLES



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post just 500 metres from Casas Altas to provide pattern of life intelligence on OpFor in and around the urban complex.

As the NATO armoured advance progressed, surveillance reports from multiple sources, including the Romanians and Belgians, identified that OpFor Irregulars had captured a downed aviator and had taken him to Casa Altas to hold as a hostage. As tension among the Irregulars

had risen markedly in response to the rapid NATO advance there were fears his life was now under immediate threat and a heliborne Hostage Rescue Operation by Special Operations Forces was mounted.

In parallel to the rescue operation by the Czech and Spanish SOF Group, Belgian Commandos from 2nd Commando Battalion and Italian Paras from 187th Parachute

Regiment were flown forward by CH-47 Chinook helicopters from the US 12th Combat Aviation Brigade, with support from American AH-64 Apache attack helicopters, to block OpFor positions to the north of Casa Altas and tie down enemy assets which could interfere with the rescue. The accompanying images document this heliborne segment of the hour-long JLHMD.

**To be continued...**



## ALLIANCE FORCES



IN THIS SINGLE SHOT OF TJ15 TROOPS LISTENING TO LT. GEN. JOHN W. NICHOLSON, COMMANDER ALLIED LAND COMMAND, AT THE END OF THE JIHAD IT IS POSSIBLE TO SPOT ROMANIAN, BELGIAN, ITALIAN, CZECH, AMERICAN, SPANISH AND GERMAN CAMOUFLAGE UNIFORMS - WE WILL BRING YOU MORE ON BOTH TROENT JUNCTURE AND SOME OF THE UNIFORMS SPOTTED IN FUTURE ISSUES OF C&S



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## COMPETITION



01

**C&S Gear Tester Mike Gormley, who has a penchant for travelling to remote and oft cold places on expedition, raves about Merino wool garments so much that eventually the message got through even my thick skull. The Merino sheep, which probably originated in the foothills of the Atlas mountains in North Africa from where it was successfully introduced to what is now Northwest Spain and Northern Portugal in the Middle Ages, is noted for its soft and fine fibre wool which is also naturally high in lanolin. Today the breed has spread around the globe as far as Australia and New Zealand.**

**I**n addition to being much softer than most other wools, **Merino** has many other qualities which not only make it ideal for athletes, travellers and those undertaking expeditions to wear next-to-skin but also make it better for soldiers to wear than many man-made materials. Apart from anything else, the wool's natural flame retardant properties offer protection up to 600°C, meaning it

won't melt and stick to the skin when exposed to high temperatures, and it does not produce toxic odours on prolonged exposure to flame; on these grounds alone one wonders why so many military clothing buyers opt for undergarments produced from synthetic fabrics which offer minimal protection against heat and fire.

On the more conventional wear side, Merino wool has natural antibacterial properties which means garments can be worn longer without washing - great if stuck for days on end in a tent or bothy or travelling long distances inside a cramped vehicle with other people - and, unlike some fabrics, it does not generate offensive smells and magnify body odour with prolonged wear. Garments made from Merino retain body warmth, the wool's natural properties also

01: CONDOR SHORT-SLEEVED TOP AND RAMMY 2 BOXERS IN MILITARY SHADE COYOTE TAN

02: IN THIS SHOT VICTORIA IS WEARING MUCH THE FULL SET OF ARMADILLO MERINO PRIZE GARMENTS - OLIVE KOJAK BEANIE, OLIVE GIRAFFE NECK GAITER, ARTEMIS LONG-SLEEVE IN TEAM GB BLUE, BLACK JILLIES AND HEAVY BOOT SOCKS

03: KOJAK BEANIE CAP CAN BE WORN ON ITS OWN OR AS A HELMET COMFORTER WHILE THE GIRAFFE NECK GAITER CAN ALSO BE WORN AS A FACE MASK TO KEEP OUT COLD OR DUST

04: THE RAMMY 2 BOXERS ARE FOR MEN BUT LOOK BETTER ON VICTORIA THAN ON ME

05: THE JILLIES LONG JOHN BOTTOMS ARE THE FEMALE CUT EQUIVALENT OF ARMADILLO MERINO JOHNNIES

06: VICTORIA WORE THE SMALLER SIZE HEAVY BOOT SOCKS - I AM WEARING THE LARGE ONES AS I TYPE

07: THE PYTHON TOP IS A 165GSM RIB KNIT BASE-LAYER



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to weight ratio than other wools as the finer fibres have greater heat-trapping properties and a much softer feel as the follicle scales are much smaller; this prevents the garments feeling itchy against bare skin in the way that coarser types of wool often do. Although when wet, Merino absorbs water in the same way as other natural fabrics, like cotton for example, it is different in that it retains warmth rather than dissipating it.

Living in comparatively mild Devon and having a preference for assignments in warm countries rather than cold, most of the time I wear my shirts - usually black, khaki or olive 5.11 Tactical or NITON Tactical - next to skin without a T-shirt. However that sudden sharp drop off in temperature that hit the UK in January, following a warmer than usual November and December, prompted me to wear a long-sleeved crew neck undergarment for once. As I was not spending overly long periods outdoors I opted for the **Armadillo Panther** (Style 11011) top, which is their 175gsm 100% Merino Jersey Knit model, but their similar design though higher specification 190gsm **Python** (Style 11111) Elite range model would have been more appropriate if I had needed to stay out in the elements for protracted periods.

My upper body, probably courtesy of a thick insulation layer created by quaffing copious quantities of

Devon. Although these thick, but not too bulky socks are not 100% Merino construction (actual composition is 52% Wool, 40% Nylon, 5% Elastane and 3% Acrylic) as they are stretchy with reinforced heel and toe areas, the inner next-to-skin surface is 100% Merino Wool so they are both ultra-comfortable and anti-bacterial.

The **Armadillo Merino** brand now covers a massive range of garments, ranging from tops and bottoms in various styles and thicknesses through to socks, gloves, hats and even neckwarmer tubes. Most tops and bottoms are available in black or olive and some garments are also produced in dark blue, purple or graphic. Specifically for the soldier, their **Condor** short-sleeved tops and **Rammy 2** boxers are also made in Coyote Brown. All the company's Merino fibre is sourced under the ZQ accreditation programme, providing traceability and transparency of the wool back to Merino sheep stations in the Southern Alps of New Zealand.

To give one lucky reader the chance to experience wearing Merino next-to-skin garments from head to toe, this month we have teamed up with Armadillo Merino to give away a full range of clothing worth up to £300. The full set will consist of, from head down to toes:

**Kojak Beanie Hat;**  
**Giraffe Neck Gaiter;**  
**Handy Gloves** (glove



07

# WIN ARMADILLO MERINO BASE-LAYERS

## £300 WORTH OF NEXT-TO-SKIN GARMENTS!

wick sweat moisture away from the skin, resulting in increased comfort, and the fibres' natural hydrophobic/hydrophilic properties reduce the feeling of wetness when sweating. Sometimes it seems Mother Nature does know best.

Other natural properties of Merino, which of course unlike most synthetic fabrics is biodegradable and sustainable so better for the environment, include better warmth

*Otter Head* real ale to wash down all those tasty Cornish Pasties, might not suffer unduly from the cold but unfortunately I cannot say the same about my feet. During the cold snap I grabbed the chance to try out the **Armadillo Merino Heavy Boot Socks** (Style No. 11506) and I am pleased to say that they certainly kept my feet toasty while all around me were slipping and sliding on ice; a condition we, fortunately, do not experience too often down here in

liners); **Python Elite**, long-sleeved crew neck top; **Johnnies** or **Jillies**, male or female long john bottoms; **Boot Socks**; and **Heavy Boot Socks**.

To be in with a chance of winning this warm and comfy set of next-to-skin garments just go to the [combatandsurvival.com](http://combatandsurvival.com) website while this issue is on the newsstands and click on the Competition banner at the top. See website for T&C.

**Bob Morrison**

Images © Bob Morrison  
Model: Victoria





KIT AND CAMO

# NORWEGIAN JTAC

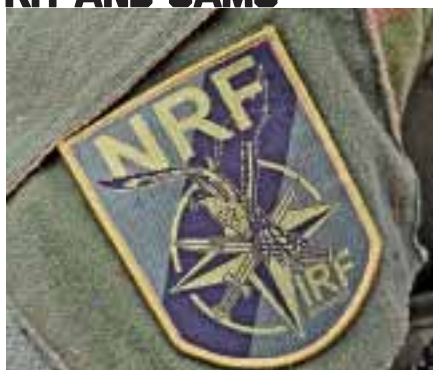
BATTERY PIRIYA, THE ARTILLERY BATTALION







## KIT AND CAMO



***It is only a couple of months since we covered a soldier - one of the Vikings from the elite Telemark Battalion who participated on Exercise NOBLE JUMP '15 at Swietoszów in Poland - wearing Norway's M/98 camouflage pattern variation of the earlier M/75 pattern but when a Norwegian JTAC agreed to pose for Kit & Camo we could not resist taking a second bite at that particular cherry.***

**Joint Terminal Air Controllers (JTACs)** are highly trained specialist who often operate from hides well behind enemy lines and it is really unusual to catch them on camera like this.

In Norwegian service JTAC teams, equivalent NATO specialist terminologies can include Forward Air Controllers and Tactical Air Control Parties, consist of four men with specialist observation and communications equipment who use pairs of Polaris Sportsman 6x6 ATVs for mobility. They are drawn from the Observation Platoon of P (Piraya) Battery of Norway's 550-strong

Artillery Battalion (Artilleribataljonen) and are highly trained to allow them to call in both artillery and ground attack aircraft strikes by national and NATO assets. Just like sniper teams, their value to both ground commanders and troops in combat far outweighs their numbers so in addition to keeping a low profile on the battlefield they try to protect their identity.

Here at **C&S** we usually think of the Norwegian Army in an Arctic context, working in snow and ice in winter in the north of their country practising guarding NATO's Northern Flank dressed in predominantly white snow camo on major exercises, so

the almost pastel bottle green/ light green/ dark tan shades of the M/98 camouflage pattern seem unusual. However as only about half of Norway's roughly 1000 mile (1600km) length is above the Arctic Circle and the bulk of its land mass in the South is warmed by the Gulf Stream, except in the depths of winter it is actually a very green land so the national camo scheme makes sense; indeed in the past we have seen for ourselves just how effective the similar colours of the earlier M/75 camo could be during Northern European Command Infantry Competitions (NECIC).

***THE NORWEGIAN JTAC FEATURED OVERLEAF SUPPORTING THE BRITISH-LED MULTINATIONAL BRIGADE ON TRIDENT JUNCTURE '15 IN SPAIN WEARS THE LOW VISIBILITY VERSION OF THE NRF/IRF (NATO RESPONSE FORCE / IMMEDIATE RESPONSE FORCE) BRIGADE PATCH ON HIS LEFT ARM AND THE BLACK & GREEN BATTERY PIRAYA (PIRANHA) PATCH ON HIS RIGHT ARM BENEATH A SMALL NATIONAL FLAG BADGE. HE ALSO WEARS A LARGER HIGH VISIBILITY VERSION OF THIS FLAG ON THE CHEST POUCH OF HIS PLATE CARRIER AND LOAD VEST. THE OTHER, TAN, BATTERY PIRAYA PATCH AND THE LOW VISIBILITY VERSION OF THE NORWEGIAN FLAG WERE WORN BY ONE OF HIS COLLEAGUES.***





# POLARIS 6x6 SPORTSMAN

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01

# UN BANGLADESH BATTALION

## BANBAT PATROL WITH MINUSMA IN MALI

**Gao, Mali, Wednesday June 10th, 11.00: A pair of well-maintained United Nations Toyota Land Cruisers is positioned on the key bridge crossing the River Niger, south of the town of Gao. Each of the bridge accesses is guarded by a Malian Army checkpoint, which filters the civilian road traffic of Chinese motorbikes and overloaded Toyota pickups. The sun is high in the sky and the temperature well above 40°C. A number of Bangladeshi infantrymen have deployed over and around the bridge with their Chinese Type 56 and Type 81 Norinco assault rifles ready, keeping an eye out for any suspicious movement.**

**S**eated in the back of the Land Cruisers, other 'blue helmets' are waiting with their weapons on their laps. Then in the distance, on the opposite bank of the river, a couple of white shapes come into view. A few minutes later, a UN-painted BTR-80 armoured personnel carrier (APC) finally appears on the other side of the bridge with a couple of Bangladeshi riflemen riding on

top, their faces wrapped in green cloths in an attempt to protect themselves from the ever present dust.

Behind the lead BTR comes a civilian truck, followed by another APC, a UN truck, a civilian SUV and one last BTR-80. The small convoy is returning from north-eastern Mali, where it had been sent a couple of days earlier. Escorting

01: THIS BANBAT 2 TOYOTA LAND CRUISER IS FITTED WITH A CHINESE TYPE 81 LIGHT MACHINEGUN DERIVATIVE OF THE SOVIET RPK FAMILY

02: BANBAT 2 SOLDIERS HAVE ALL RECEIVED ANTI-IED TRAINING FROM UNMAS WITH A NUMBER MOVING ON TO RECEIVE ADDITIONAL SPECIALIST INSTRUCTION IN THIS FIELD WHILE IN MALI



02



## PEACEKEEPING FORCES

03: SEEN HERE CROSSING THE NIGER RIVER, THIS BTR-80 IS RETURNING FROM A CONVOY ESCORT MISSION FROM KIDAL TO GAO

04: THE CONVOY WE COVERED INCLUDED THREE BTR-80 ARMoured PERSONNEL CARRIERS - BANBAT 2 HAS A TOTAL OF 28 ON STRENGTH

05: IN ADDITION TO BTR-80 PERSONNEL CARRIERS THE CONVOY RETURNING TO GAO INCLUDED THIS UN TRUCK PLUS A CIVILIAN SUV AND A CARGO TRUCK

06: ARMoured VEHICLES ARE STILL INSUFFICIENTLY NUMEROUS IN MINUSMA - THE BANBAT BTR-80S ARE AMONGST THE MOST CAPABLE AND WELL-SUITED ON THE MISSION

07: THIS BANGLADESHI SOLDIER IS ARMED WITH A CHINESE TYPE 63 CARBINE DERIVATIVE OF THE SOVIET SKS

08: BANBAT 2 HAS THREE MOTORISED COMPANIES WHICH USUALLY OPERATE WITH TOYOTA LAND CRUISER 70-SERIES LIGHT UTILITY VEHICLES

Images © Erwan de Cherisey

03

civilian and UN vehicles tasked with resupplying the **MINUSMA** bases in Kidal, Ansongo or Menaka is one of the routine duties entrusted to the men of the **Bangladesh Battalion 2 (BANBAT 2)** based at Gao, a task frequently performed in harsh weather conditions and with the constant threat of a terrorist ambush or IED attack.

In the course of a short visit to cover a selection of units serving with **MINUSMA** (*Mission Multidimensionnelle Intégrée des Nations Unies pour la Stabilisation au Mali* or *United Nations Multidimensional Integrated Stabilisation Mission in Mali*) I had the opportunity to the follow the men of BANBAT 2 for a few hours.

### ORGANISATION AND MISSION

"With three decades of participation in United Nations peacekeeping operations worldwide, the armed forces of Bangladesh have garnered a significant amount of experience in this field," explains **Major Mahmud**, the BANBAT 2 operations officer (S3). BANBAT 2 took over from BANBAT 1 on May 4th, 2015. It comprises 850 men hailing from a variety of combat units, as well as support components such as logistics, maintenance, signals, etc. The BANBAT 2 contingent is organised into: a Headquarters Group; a Mechanised Rifle Company, equipped with 28 BTR-80s (21 APCs, four ambulances and three recovery



04



05



**“THE EVER-PRESENT FINE DUST GETS EVERYWHERE, ESPECIALLY IN THE VEHICLES’ ENGINES, EVEN WHEN THESE ARE EQUIPPED WITH SAND FILTERS.”**



versions); three Motorised Rifle Companies, on Toyota Land Cruiser and Arunima Bolyan 4x4 trucks; and a Special Company, which comprises an 82mm Mortar Platoon, an Assault Pioneers Platoon, a Reconnaissance Platoon, a Medical Role 1 detachment and a Logistics Platoon. The weapons in use include the Norinco 7.62x39mm Type 56 and Type 81 assault rifles, the 7.62x54mmR Type

85 sniper rifle, the 7.62x54mmR Type 80 and 7.62x39mm Type 81 light machineguns, the 12.7x104mm DShKM heavy machinegun and the RPG-7/Type 69 rocket propelled grenade launcher.

The Bangladeshi Battalion answers to MINUSMA's Eastern Sector Headquarters, which is based at Gao. Its primary duties are convoy escort, providing Quick Reaction Forces (QRF) for the rest of the MINUSMA units in the Gao area, securing Gao Airport and conducting medium and long range patrols within its designated area of responsibility (AOR). The latter is roughly limited by a northern axis from Bamba to Anefis and a southern line from Ansongo to Menaka. In practice however, BANBAT 2 regularly operates outside of these boundaries, when escorting convoys to and from Kidal. For example, it was in charge of covering the withdrawal of the Senegalese Battalion from Kidal back to Gao.

The BANBAT 2 missions are complicated by the poor condition of the road network in Northern Mali. There are no concrete roads going





## PEACEKEEPING FORCES

**09:** FROM THE AIRBORNE PATCH ON HIS SLEEVE THIS BANGLADESHI SOLDIER HAS LIKELY SEEN SERVICE IN HIS COUNTRY'S 1ST PARACOMMANDO BATTALION

**10:** SEEN HERE SECURING A BRIDGE ON THE NIGER RIVER ON THE OUTSKIRTS OF GAO THIS BANBAT 2 SOLDIER IS ARMED WITH A CHINESE 7.62MM TYPE 81 ASSAULT RIFLE

**11:** THE ARUNIMA BOLYAN, PRODUCED BY BANGLADESH MACHINE TOOLS FACTORY LTD, IS THE MAIN UTILITY TRUCK IN SERVICE WITH BANBAT 2

**12:** TAKEN AT BANBAT 2'S BASE IN GAO THIS PHOTOGRAPH SHOWS THE TOYOTA LAND CRUISER REMAINS A VEHICLE OF CHOICE FOR MOTORISED PATROLS

**13:** GOOD MAINTENANCE IS ESSENTIAL TO BANBAT 2 AS CONVOY ESCORTS CAN LAST SEVERAL DAYS WITH THE POSSIBILITY OF A BREAKDOWN TAKING PLACE HUNDREDS OF KILOMETRES AWAY FROM BASE

**14:** THE BTR-80 FLEET INCLUDES THREE RECOVERY VEHICLES WHICH COME IN HANDY IN MALI AS BREAKDOWNS HAPPEN FREQUENTLY DUE TO THE HARSH ENVIRONMENT

**15:** BANGLADESHI MECHANICS SEEN AT WORK ON A COUPLE OF ENGINES IN THE MAIN BASE CAMP IN GAO - THE EVER PRESENT DUST IS A MAJOR SOURCE OF MECHANICAL PROBLEMS



09

to Kidal, only dirt strips which have to be avoided due to the risk of IED attacks, forcing convoys to move across country at a much slower speed. The few tar roads such as the one going from Gao to Ansongo allow faster movement and the danger of an IED attack is lower on them; however, and unlike in Southern Mali, their number is very limited. Having no Explosive Ordnance Disposal (EOD) capability of its own, BANBAT 2 relies on the Cambodian Battalion's experts who specialise in this field of duties. Their number is, however, limited and they are not always available to support Bangladeshi operations, thus forcing BANBAT 2 to conduct some of its operations without this much needed support.

When the men are not on operations they maintain the camp facilities, helping to erect new prefabricated lodgings in lieu of the existing tents and servicing the UN vehicles or

the weapons. Training courses are conducted from time to time in such fields as APC driving, riot control, weapons handling, legal affairs, etc.

### AN UNFORGIVING ENVIRONMENT

Mali is a very demanding operational area. The men of BANBAT 2 are quick to point out some of the main difficulties they frequently face when conducting their duties. The ever-present fine dust gets everywhere, especially in the vehicles' engines, even when these are equipped with sand filters. Equipment and weapons are quickly worn out by the abrasion despite the frequent servicing they receive, which includes stripping them down and, in the case of the engines, washing them thoroughly and frequently with water.

Even with this extra care, break-

downs are common and affect all motor vehicles in the battalion, even the rugged BTR-80s. When this happens during a mission, the column has to stop to allow for repairs to be made, thus further exposing it to a potential Jihadist attack. The long distances involved in most escort or patrolling sorties only make these issues more acute and further complicate the already overstretched logistics.

It also seldom proves possible to maintain permanent contact with



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the units in the field in light of the deficient transmissions, with radio and even satellite communications suffering frequent atmospheric interference and cluttering. Last, but not least, sandstorms reduce visibility to nil and usually force patrols and convoys to stop, which further increases the duration of the missions and requires additional supplies of water and food to be loaded aboard vehicles before any operation.

The Bangladeshi command is also worried by the distinct lack of aircraft available to MINUSMA, resulting in inadequate Medical Evacuation coverage of Northern Mali. Indeed, during the BANBAT 1 mandate, an IED attack left four Bangladeshi personnel wounded and in need of evacuation. When MINUSMA was unable to airlift them back to Gao's Role 2 hospital, French aircraft deployed on Operation BARKHANE had to be called in to assist.

## PERSONNEL SELECTION AND TRAINING

Prior to deployment BANBAT 2 personnel underwent a selection process comprising several criteria before departing for Mali. Among the elements considered before a soldier is selected is his time of service since his last UN mission, if he has already taken part in one, his medical and physical condition and his trade or skills speciality, etc.

Before leaving for Mali, the contingent was put through a final pre-deployment training programme lasting four weeks. In the course of their preparation the men were extensively briefed on the country's current security situation, its cultural specificities and traditions, the UN rules of engagement, and operational procedures for convoy escorts, etc.

Unlike their BANBAT 1 predecessors, the men of BANBAT 2 also took a special three-day IED risk course provided by UNMAS (United Nations Mine Action Service) experts detached to Bangladesh. This training module was only recently introduced by MINUSMA in light of the lack of IED awareness of many of its contingents. The training continues once in Mali with a number of soldiers and NCOs from BANBAT 2 following a two week counter-IED seminar aimed at turning them into the Battalion's IED threat specialists. During this course they perfect their knowledge of IED types as well as improving their ability to detect the tell-tale signs likely to betray the presence of an IED.

## BANGLADESH AND MINUSMA

With 1583 troops deployed in Mali, Bangladesh is the largest contributor to MINUSMA. Aside from BANBAT 2 in Gao, it also deploys Engineer Companies at Aguelhok and Kidal, where an Air Force Helicopter unit with three Mi-171 is also based. A riverine unit manned by Navy personnel is headquartered at Gao while a signals detachment operates in Timbuktu and a transport group in Bamako. Officers and staff personnel are also detached into the mission and sector HQs.

Images © Erwan de Cherisey



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# OUTDOOR GEAR

Images © Mike Gorley + Bob Morrison

BY MIKE GORMLEY

## EDZ GEAR YETI JACKET

I have long been a fan of EDZ, who work out of Maryport in Cumbria to the north-west of the Lake District. Cumbrian folk, from first-hand experience, recognise the need to keep on top of inclement weather. To try their kit out they just need to pop outside!

Their **Yeti Jacket** has to be one of my most used garments. Having almost worn one out (grey) I am now on my second (blue) and it is also what I wear round the house when it is chilly. I always say it saves its value, time over time, on heating bills. Yeti on, heating off, sorted. It is just so nice and cosy to wear. My wife, on the other hand, wears hers as it should be when out and about on chill days.

The Yeti has a wonderful 'feel' that immediately makes you warm. It zips right up and has thumb loops so works really well as a base, mid or top layer. Don't be put off by its somewhat fluffy feel. It is tougher than it may at first seem.



01

01: EDZ YETI WORN AS AN OUTER LAYER ON A BRIGHT BUT VERY COLD DEVON WINTER DAY

02: SLEEVES HAVE THUMB CUFFS TO PREVENT RIDING UP THE FOREARM

03: POCKETS ARE MINIMALIST BUT GOOD FOR HAND-WARMING



02



03



## PERSONAL SURVIVAL

### PRINCETON TEC SYNC HEAD TORCH

**A** small, light and easy to use head torch is frequently all we need. Ideal as a 'just in case' light, as well as for more serious use; we often do not need to light up the rest of the world.

This model gives 90 lumens max and has a twin LED system which give variations of spot, flood or combined. It also has a red LED, which is always the first to come on from the lock position on the easy to use side control dial. I like this switching system. It is foolproof, unlike a push button sequence, if you have to have red light but also easy to move to whichever level of white light you require. Importantly, not too fatty if you are wearing gloves.

It is weather resistant and runs off 3x AAA batteries which are said to give it 150 hours run time and it weighs in at only 83 grammes.

**01: TIPPING THE SCALES AT JUST 83 GRAMMES THIS IS A VERY LIGHT UNIT**

**03: THREE GOOD QUALITY AAA BATTERIES SHOULD GIVE UP TO 150 HOURS OF LIGHT**

**03: THE SYNC HAS ONE WHITE AND TWO WHITE LEDS PLUS A DIAL TO CONTROL THE VARIOUS OUTPUTS**



### SUPRABEAM Q2 TORCH

**T**his is a cracking little torch with very significant power, 30-130 lumens, from such a small unit which weighs in at only 80 grammes.

It sits very neatly in the hand and the variable focus, spot to wide angle, can be adjusted in one hand, which is very useful. The rear mounted on/off button also selects the high/low power setting. Well designed and made in Denmark, it is robust and weather-resistant. The single LED is powered by one AA battery. The Q2 comes with a very practical belt pouch so it is easy to have with you for when the need arises.



I have previously reviewed the **Suprabeam V3r head torch**, which is also very good indeed and I think has the same light unit. Recommended.

**01: THE Q2 IS WELL MADE, ROBUST AND VERY BRIGHT FOR ITS DIMINUTIVE SIZE**

**02: SUPRABEAM Q2 WITH BELT POUCH ALONGSIDE SUPRABEAM V3R 200 LUMENS RECHARGEABLE HEAD TORCH**





01: NO HANDLE TO GET IN THE WAY WHEN SAT IN THE DISCOVERY'S CUP HOLDER

02: THE STANLEY MUG DRINK CAP EASILY BREAKS DOWN FOR THOROUGH CLEANING

01

## STANLEY CLASSIC ONE HANDED VACUUM MUG

I like a mug with no handle. To me, handles mostly seem to be unnecessary and tend to get in the way. This especially if you need to slide it into a Bergen or pouch, or into the vehicle mug holder. It also means there is no 'right way round' which makes life much simpler. The drink valve is one-finger operated and self seals well, so if the mug falls over your brew is safe; critical!

Specified to keep a hot brew hot for seven hours, or a cold one cool for 30, seems in reality beyond what one might expect, or perhaps really

need, from a mug. However with the Stanley history of keeping things hot (or cold) since 1913, this capability is no real surprise. Just to try it, I filled it with boiling water one evening and it was still hot at 07:00. Not bad.

Clearly a very robust mug, which is easy to use as well as being easily and thoroughly cleanable, as it comes to bits, this has to be a very good option. It's on my desk with my morning brew now and it will be in the car later as I head off on a trip, safe in the knowledge I will have a warm 'wet' to hand for a good few miles.



02

## UST LEARN & LIVE SURVIVAL GUIDES

Ultimate Survival Technologies (UST) produce a whole range of handy items which, as their name suggests, could help you survive or just give you some sound base knowledge.

Here I look at some of a range of field guides to help you with various aspects of survival in the outdoors. These include: Way Finding, Cloud Cards, Fire Building, Knot Tying and Shelter Building. I have also been trying out their handy Stormproof Notebook.

The cards are designed to be used in the field and carried with you if you need to. Even if you think you know it all, these make good memos and also make good give-away presents to those who are in the early stages of dealing with the wilder outdoors.

01: A SELECTION OF UST'S INFORMATIVE GUIDES - NOTE ALSO THE WATERPROOF NOTEBOOK AND PENCIL WHICH ARE AN OUTDOOR ESSENTIAL

02: THE HANDY SIZE CARDS ARE DESIGNED TO BE CARRIED WITH YOU FOR USE IN THE FIELD AND FAN OUT FOR EASY READING



01



02



## PERSONAL SURVIVAL

PRODUCT	UK CONTACT	TELEPHONE	WEB
EDZ	EDZ	01900 810 260	<a href="http://edzlayering.com">edzlayering.com</a>
Princeton Tec	Whitby and Co	01539 721 032	<a href="http://whitbyandco.co.uk">whitbyandco.co.uk</a>
Stanley	Burton McCall	0116 234 4600	<a href="http://burton-mccall.co.uk">burton-mccall.co.uk</a>
Superfeet	Superfeet	0131 344 7980	<a href="http://superfeet.co.uk">superfeet.co.uk</a>
Suprabeam	First Ascent	01629 580 484	<a href="http://firstascent.co.uk">firstascent.co.uk</a>
UST	Whitby and Co	01539 721 032	<a href="http://whitbyandco.co.uk">whitbyandco.co.uk</a>



**01: USING REPLACEMENT SUPERFEET INSOLES REJUVENATED MY TIRED OLD BOOTS**

**02: UNDERSIDE SHOWING THE HARD SUPPORT IN THE HEEL AND INSTEP AREA**

### SUPERFEET INSOLES

**Y**ears ago new boots were fitted with what seemed to be not much more than a fabric covered card as a footbed. So the first thing to do was buy insoles, though the range was limited and not very technical in approach.

How times have changed. Not only have bootmakers improved significantly, but a whole aftermarket industry has evolved to provide very technical footbeds to help those of us whose feet are just that little bit different. Superfeet are right in there, with a wide range of footbeds to accommodate all sorts of needs for hard worked feet. Their insoles are also very usefully colour coded, which identifies the type of insole it is and with such a range, this is handy.

In the past I must say I did not

have a lot of luck with footbeds but mostly due to lack of advice and to not choosing the correct insole for me and my usage. For some time now I have been using a pair of Superfeet Copper insoles in a pair of not particularly good boots; I say this as I had more or less discarded them as they made my feet ache. So it seemed a good place to start when trialling these insoles.

Well, I now wear these old boots quite a lot and do not suffer, so a bonus here. I have comfy feet and a pair of boots I can now wear for a lot longer. However, this said, I am sure Superfeet did not go to the trouble of designing a range of insoles just

to resurrect tired old boots but to improve the lot of the wearer of decent footwear. In the past I have found insoles to be a bit hard and to try too hard to make your foot do what it did not really want to do and this, to me was not comfortable.

The Superfeet Copper variant is made with a three-layer memory foam. These soles do offer considerable support to the heel with a hard plastic base but I do not find this intrusive. To quote the product info, there is a "biomechanical shape" which supports the foot well, but gently. The foam does memorise your foot and it also has an odour control coating; seems to work.

In summary, these have revised my enthusiasm for Superfeet but I do suggest you take good advice before you choose which one of the range to go for. There is a lot of good info on the website, so it's a useful place to start.





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01



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# FIXNZIP FIELD REPAIR KIT

**IF, LIKE ME, YOU ARE A BIT CLUMSY YOU HAVE PROBABLY OWNED OTHERWISE SERVICEABLE GARMENTS AND GEAR WHICH HAVE BECOME UNWEARABLE OR UNUSABLE BECAUSE A ZIP FASTENER HAS BROKEN. IN THE PAST OFTEN THE ONLY ALTERNATIVE TO DISCARDING WAS TO HAVE A NEW FASTENER SEWN IN BY A PROFESSIONAL BUT, AS THAT IS A COMPLEX TASK AND ZIPS OF THE CORRECT SIZE AND LENGTH DO NOT GROW ON TREES, DOING SO COULD BE EXPENSIVE. SHOULD A FASTENER ON A CRUCIAL BIT OF KIT BREAK IN THE FIELD, HOWEVER, THE TAILOR OPTION IS NOT AVAILABLE. IN SUCH UNFORTUNATE CIRCUMSTANCES, WHAT CAN ONE DO?**

**E**ssentially, most zippers break in one of two ways: either the teeth become damaged and the two sides fail to remain together, or the normally malleable fastener either wears out through prolonged use - or falls apart at its thinnest part due to metal fatigue. In the first instance, - dependent on

where the tooth damage is, it may be possible to effect a repair by repeatedly stitching over the break and just using a shorter effective zip length, but usually a complete replacement will be required. If the metal fastener wears out or falls apart, however, this can now be countered by using a **FIXNZIP field repair kit**; a handy and practical



US-manufactured solution which will take up next to no space in your personal kit.

The full **FIXNZIP kit** includes three different size assemblies which cater for zip widths between 1mm and 10mm (standard zip sizes 1 to 10). The examples shown here are bright nickel plated, but more





**01: BOTH SINGLE- AND DOUBLE-ACTION ZIP TYPES CAN BE REPAIRED WITH FIXNZIP - THIS STYLE OF ZIP REQUIRES THE SLIDER SCREW TO BE FITTED ON THE INSIDE BUT THIS IS EXPLAINED IN THE INSTRUCTIONS**

**02: THREE SIZES ALONGSIDE THE BLISTER PACK BACKING CARD WHICH HAS COMPREHENSIVE INSTRUCTIONS**

**03: A COMMON SIDE-ZIP BOOT PROBLEM CAN NOW BE EASILY RECTIFIED [NITON PHOTO]**

**04: LARGE (TOP) AND MEDIUM REPLACEMENT SLIDERS - AS COMPONENT PARTS AND ASSEMBLED**

**05: IT TOOK ME JUST A COUPLE OF MINUTES TO REPLACE A WORN SLIDER ON MY REVERSIBLE FLEECE**

**06: CLOSE-UP OF SLIDER ASSEMBLY WITH SPLIT RING [NITON PHOTO]**



(included) and you are ready to go. It really is that easy, but just in case you have problems there are full instructions included on the backing card in the blister pack.

To ensure it does as claimed we have tried this zip repair kit on both garments and daysacks, but it will also work on things like sleeping bags and side-zipped boots which over time also tend to suffer from zip problems due to repeated use. Indeed only a few weeks back I threw out a pair of black patrol boots which were otherwise serviceable as the price quoted by the cobbler to replace both knackered zips was almost as much as buying a new pair. Had I only known about **FIXNZIP** things would have been different.

**FIXNZIP** is available in the UK through **NITON999 Equipment** and can be ordered online through [niton999.co.uk](http://niton999.co.uk)



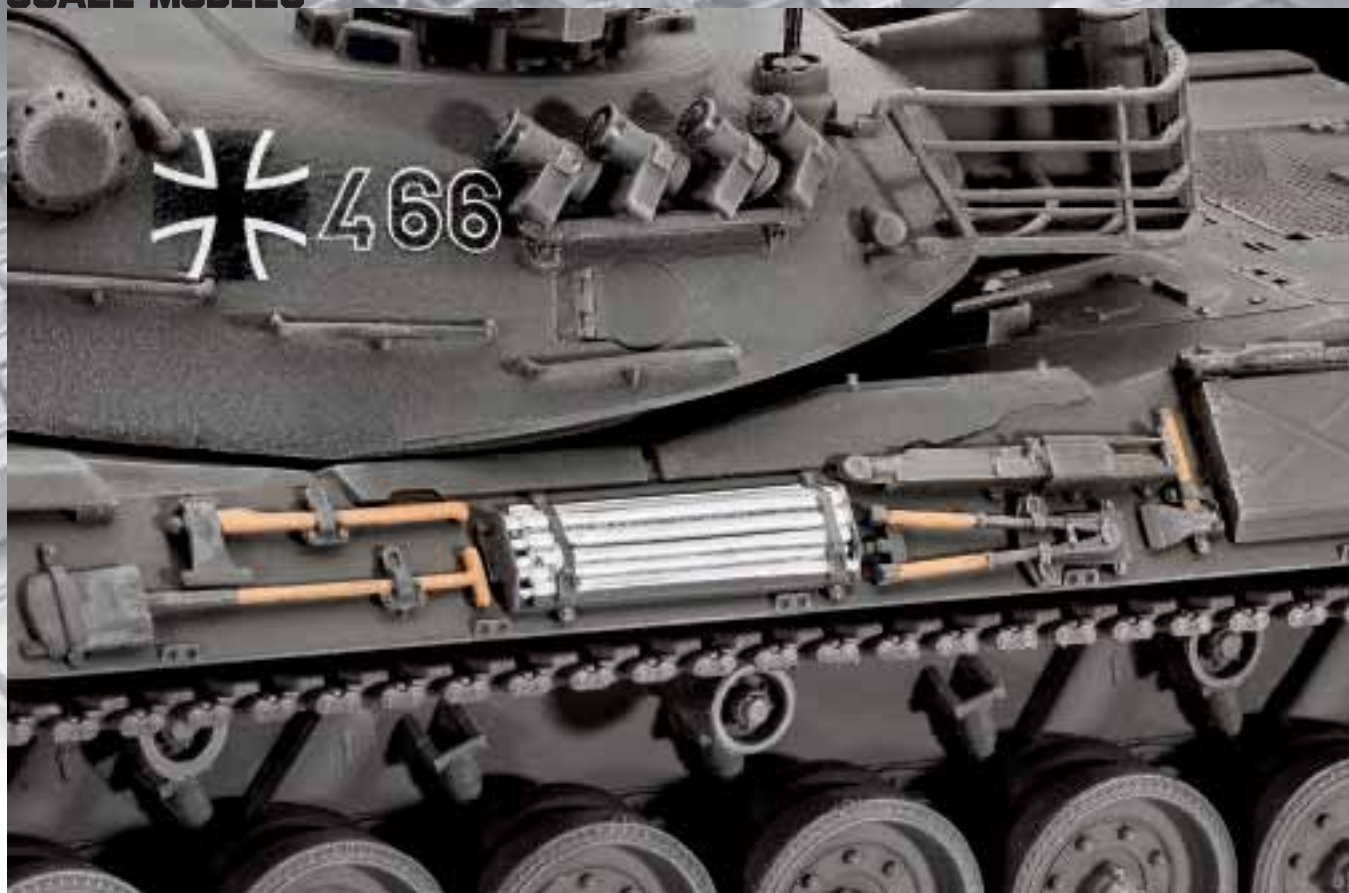
tactical black coated versions are also available. It is possible to buy S, M or L replacements individually, but our advice would be to buy the triple pack so you cover all bases - as if the broken zip width is on the cusp between sizes you might be carrying the wrong size to effect a proper repair.

So, how does it work? In one word, simply... Expanding on this, all you need to do is, after removing the broken fastener, first undo the screw sufficiently to slip the FIXNZIP sliders over one side of the zip then

screw the assembly down. Next loosen off the screw by about a quarter turn to give free movement up and down the length of the zip and once you have got this right you have effectively restored your zipper. Add the split ring and/or the tab and cord





Images on this page **Leopard 1 MBT**

# LITTLE LEOPARDS

**THIS MONTH, C&S TAKES A LOOK AT REVELL KITS BOTH CONTEMPORARY AND WW2 WITH THE LEOPARD 1 AND LEOPARD 2A5/A5 AND ONE FOR THE VOLKSWAGEN FANS - THE GERMAN TYPE 82E STAFF CAR.**

**C**onstruction kit manufacturers **Revell** have been around for many years and today they offer a terrific selection of model kits, which includes a surprisingly comprehensive collection of military vehicles. Admittedly some of their early







offerings were less than accurate, but that was way back in the 1960s and today's kits easily match the best plastic injection moulded kits available with an excellent level of detail and they are priced pretty keenly too.

With the European arm of the Revell brand being a German company, it will come as no great surprise that they produce a lot of German military vehicle subjects and while some of them are WW2-related, many of them depict the very latest vehicles to equip the Bundeswehr. Last month we covered

the **GTK Boxers** recently added to the Revell line-up and to kick off this month we have two new modern tank releases, namely the **Leopard 1** and **Leopard 2A5/A5**.

Both kits are moulded in the dark green plastic that we have come to associate with many of Revell's more recent kits and both include traditional rubber tracks rather than the individual plastic links, which tend to be one of those features you either love or hate and are, indeed,

easier for beginners to handle.

Detailing on both the kits is, as you can see, pretty good with the surface texture being particularly nicely represented and easily matches the vast majority of the kits offered by other manufacturers. However, with a retail price of around the **£26.99** mark, depending on where you buy them, they are considerably cheaper than some of the more expensive kits currently being offered by Far Eastern manufacturers.

Revell model kits are available from all good toy and model retailers. For UK outlets visit: [revell.de/en](http://revell.de/en)



## SCALE MODELS



# WWII CLASSIC

## GERMAN TYPE 82E STAFF CAR

**M**oving on to another 1/35 scale kit, and to a different period of time, we have the **Type 82E German**

**Staff Car** dating from the Second World War. The vehicle in question is perhaps better known as the VW Beetle and, while it may seem like a slightly odd choice of subjects, it's worth remembering that the

Beetle has a huge following around the world with collectors often spending vast amounts of money restoring these curious little cars, so it's actually a sound business choice on Revell's part to add this kit to the range because more importantly for Revell, the owners also have a huge desire for anything Beetle-related, be that books, accessories and of course models!

It's not exactly a big kit, and my understanding is that it is a previous release from another smaller manufacturer that has been taken on under the Revell brand name. This may seem a little odd to some, but today it is commonplace and a way of brands expanding ranges without having to go to the expense of new tooling. Despite all this the level of detail is pretty good and it makes a nice change for a big manufacturer such as Revell to buy in to what is a niche market subject. The kit retails at around £12.99.

Revell model kits are available from all good toy and model retailers. For UK outlets visit: [revell.de/en](http://revell.de/en)



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## COMING UP IN C&S

**N**ext month **Gordon Arthur** reports from the Asia-Pacific region on the unique role and responsibilities of the USMC 31st Marine Expeditionary Unit.

After recently working with elite Polish snipers **Carl Schulze** brings us an exclusive feature on their home-grown and rarely seen 7.62mm BOR bolt action sniper rifle. Carl will also focus on Britain's HUSKY Tactical Support Vehicle, bringing us plenty of images of this now Core Fleet vehicle in service in Afghanistan. Additionally **Bob Morrison** will report on the armoured assault phase of NATO's Joint

Land Heavy Military Demonstration on the CENAD San Gregorio training area in Spain undertaken by the Spanish-led multinational brigade on Exercise TRIDENT JUNCTURE '15. For the Kit & Camo series Bob will focus on a member of Croatia's Guards Motorised Brigade wearing the 2005 digital pattern Woodland camouflage. Finally, for his Outdoor Survival feature **Jason Polley** will concentrate on Tracking.

**Plus:** News, Product Reviews & Books.

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# PREPPERS GUIDE

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# APOCALYPSE NOW? HOW FICTIONAL IS FICTION?

By **JASON POLLEY**

## WEATHER CONTROL



K, so *Stormageddon* was a bit of a dodgy film. Can the weather really be controlled and storms ordered up at will? Sci-fi nonsense, right? Well...

Rain, and also snow and hail, can be induced by 'seeding' clouds with lead and silver iodide. During the Vietnam War, the American implemented **Operation POPEYE** and were able to extend the monsoon season to their advantage. Similarly, the British had **Operation CUMULUS**, the objective of which was much the same: to increase rain and flooding in specific areas, slow down enemy troop movements, and cause heavy fog around enemy airports. For non-military purposes, China used weather control methods to clear the skies before the **2008 Beijing Olympics**, as well as to induce snowfall after months of drought.

**PREPPER IS THE NICKNAME FOR THOSE WHO ACTIVELY PREPARE FOR PERSONAL SURVIVAL IN CASE DISASTER, BE THAT AS A RESULT OF NATURAL DISASTER OR SOCIAL BREAKDOWN, SHOULD STRIKE. SOME MAY SNIGGER AT THE CONCERNS OF THE MODERN DAY PREPPER/SURVIVALIST AND THINK THEIR WELL-HONED SURVIVAL SKILLS AND STOCKPILING TO BE THE RESULT OF WATCHING TOO MANY OF THOSE END-OF-THE-WORLD FILMS. IN TRUTH, HOWEVER, THOSE MOVIE STORY-LINES HAVE A SURPRISING AMOUNT OF FACT BEHIND THEM.**

The US have now developed the ability to alter weather patterns. **The High-frequency Active Auroral Research Program (HAARP)**, is an appendage of their Strategic Defence Initiative and is, in essence, a Weapon of Mass Destruction operating from the outer atmosphere and capable of destabilising agricultural and ecological systems around the world. For these reasons it was deliberately not a discussion point at the November 2015 Climate Summit in Paris. Russia has also developed

methods of controlling weather using electro-magnetic weapons. 'Weather Warfare' is the stuff of policy authors as well as sci-fi writers.

## EPIDEMICS

Epidemics are real and have been taken seriously ever since the **Black Death** killed around 200 million Europeans, about half the total population at the time, in the mid-1300s. Films like *Outbreak*, *28 Days Later* and *Contagion*, as well as



## PREPPERS GUIDE

RICK GRIMES GROUP IN *THE WALKING DEAD* SURVIVE IN A POST APOCALYPTIC SCENARIO WHICH SEES THE DEAD COME BACK TO LIFE THANKS TO A VIRUS THAT INFECTS ALL HUMANKIND



popular TV series like *The Walking Dead*, could be described as more docudrama than science fiction.

The recent Ebola epidemic in Africa is now mostly under control but lasted some two years and infected around 30,000 lives, killing about 40%. It spread as far afield as Scotland and the US in that time. Britain's armed forces, from medical, logistics and engineering disciplines, deployed to Sierra Leone on **Operation GRITROCK** for over a

year from late 2014 to help bring the epidemic under control.

The **Spanish Flu** killed around 50 million people in 1918, and various forms of influenza have been claiming millions of lives ever since. We simply can't stop infected people moving around.

**Smallpox**, now supposedly eradicated, killed some 300 million people during the Twentieth Century alone. This unpleasant disease has been used in germ warfare by both British and French forces, and in 1947 the then USSR created a smallpox weapons factory. Although the programme has

now been closed down, the break-up of the USSR means no-one can be 100% sure all traces of the smallpox virus have been destroyed.

Many countries acknowledge the illegality (but usefulness) of biological weapons, as they have the ability to wipe out millions over a very short period using the minimum of manpower. Handy.

## CYBER ATTACKS

Most of us now realise computers can be hacked,

A LAB CREATED VIRUS INFECTS THE MAJORITY THE UK POPULACE IN 28 DAYS LATER





**DIE HARD 4.0****SKYFALL****THE DAY AFTER TOMORROW****ARMAGEDDON**

making story-lines in films like *Skyfall* and *Die Hard 4.0* quite believable. Hackers have broken in the Pentagon's website as well as the computer systems of Interpol, news agencies, the NHS and most government departments.

The world is now virtually computer-dependent. Financial institutions, transport networks, businesses, communication links and power companies are all reliant on the Internet. Turn it off, and the country stops functioning. Most police forces and intelligence agencies have departments dedicated to cyber-crime and cyber-terrorism.

In 2007 Estonia had its entire Internet service shut down during a conflict with 'mother Russia'. The country ground to a standstill. In 2003 '**Titan Rain**' was the name given to the prolonged attacks on US computer systems, probably state-sponsored and from China. The hackers gained access to many defence contractor computer networks, targeted for

**SARAH CONNOR WAS THE ORIGINAL CINEMATIC DOOMSDAY PREPPER IN T2**

their sensitive information, including Lockheed Martin, Redstone Arsenal and NASA.

The beauty of cyber attacks is the attackers are almost impossible to trace; there are no neat footprints in the sand to follow. With sufficient knowledge malevolent groups, or even individuals, can deliver chaos from thousands of miles away.

## ASTEROID COLLISIONS

What to do if a large asteroid is found to be heading straight for Earth makes for a good story. Films such as *Armageddon*, *Deep Impact* and even dodgy TV movies like *Meteor Storm* and *Asteroid* have all played with the idea.

As of July 2015, there are two main impact risks. One is **asteroid 2009FD**, which has a diameter of about half a kilometre and a one in 340 chance of striking the Earth in 2185. The other is an asteroid called **Bennue**, which is about the same size and has one in 2700 chance of hitting Earth in 2175.

Astronomers scan the skies for wayward rocks and, although we should have plenty of warning, they will be very little we can do to stop an impact unless it is small enough to nudge out of the way with a super-large explosion or a spacecraft.

Although an asteroid capable of global disaster probably needs to be more than a quarter-mile wide, many are actually hundreds of miles

wide. The impact of a quarter mile wide asteroid would send enough dust into the atmosphere to create a 'nuclear winter'. Something like this wiped out the dinosaurs remember. Large asteroids at risk of striking Earth are fortunately very rare, but even the smaller asteroids that strike Earth every 1,000 to 10,000 years or so, could still destroy a city and cause devastating tsunamis.

In February 2013, an asteroid entered Earth's atmosphere over Chelyabinsk in Russia. The shock wave alone injured 1,200 people. That asteroid is estimated to have measured just 65 feet wide – I don't want to be around when a quarter-miler strikes!

## MUTANT INVASION

*The Fly*, *The Day of the Triffids*, *The X-Men*, and *Total Recall* all have mutants as a key element to the story. Pure fantasy, right? Hmm, not really. Plants and animals (including humans) have been producing mutant versions of themselves since time began.

Mutation is a form of evolution, of accelerating change. Animals with a short life-cycle can adapt and change quickly, producing a 'new' version of themselves better suited to a change in their environment. For this reason insects and rodents survive well and can rapidly alter themselves if temperatures rise or fall, or their usual food source disappears.

We have all seen how dogs and horses are cross-bred to produce



# PREPPERS GUIDE

ROBOT KILLERS EXTERMINATE HUMANITY IN *TERMINATOR: SALVATION*



something more powerful, stronger, and faster than their parents. Let's also not forget the Nazi T4 and eugenics programmes, in which the less perfect humans were killed off and the supposedly perfect humans were promoted.

Even plants mutate and have recently been found growing healthily on sites still toxic from explosives. Accidental leaks of radiation from nuclear power stations, like **Chernobyl** in the Ukraine in 1986, have also produced mutant humans, animals and plants.

Bacteria and viruses mutate and morph into something more resistant to the medicines trying to kill them. They can become virtually impossible to exterminate because of their ability to constantly mutate. The next mutant invasion could be microscopic.

## CLIMATE CHANGE

Films about violent weather – *The Day After Tomorrow*, *Twister*, *Hard Rain*, *Perfect Storm* – do not now appear wholly fictitious. Many people have seen the effects of global warming: more rain, warmer winters, erratic weather patterns and very blurred seasons.

Globally, the year 2014 was the hottest on record, though when final

statistics for 2015 are compiled that record might be broken, and polar caps have been melting for years. Of the 150 glaciers in the Montana Glacier National Park in 1910, only 25 now remain. Sea levels are rising fast. Added to this is pollution, which has left seawater now thirty times more acidic than in the pre-Industrial Revolution times.

Also bear in mind that the frequency of hurricanes has increased by 30% over the last thirty years. Some plants and animals were not quick enough to evolve to the climate changes and are now extinct. Will humans, and their food sources, be able to keep up with the rapidly transforming climate?

## ROBOTS

Yes, we've all seen the *Terminator* films, even *Blade Runner* and *Star Wars*, but how close are we to having robots as killing machines?

Robots are already part of our lives, but not all look like something out of the movies. Smart phones and SatNavs will give and take oral instructions. Artificial intelligence has progressed further than you may think, and NASA has developed robotic explorers to carry out space missions that can repair themselves if they become damaged. These things are not remotely controlled – they

BOSTON DYNAMICS WILDCAT



are thinking machines given a task to complete.

The military have been using drones for decades and they are increasingly sophisticated. The US created *DARPA* – the *Defence Advanced Research Projects Agency* – who fund robot research. They have now developed the bipedal humanoid **ATLAS**, the most advanced humanoid robot so far. At over two metres tall and looking like a stripped down Terminator, they say it is primarily for disaster response situations, but anyone can see that it could be easily armed and lethal. With super-computers as 'brains' and mass-produced, you would have an army that requires no sleep or food.

If you started reading this supplement as a disbeliever, maybe you'll suppress that snigger next time you see a Prepper stocking up on medical supplies and powdered milk...



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# PLAN TO SURVIVE... ...AND SURVIVE TO PLAN

So has Jason made you think? The aim of this Preppers Guide is not to teach you how to survive if natural disaster or civil disorder should strike - that's what Jason's regular bi-monthly Urban Survival features try to do - but to raise your awareness of the possibly remote, but nonetheless feasible, threats to your future and to encourage you to prepare so that you have more of a chance than those who bury their head in the sand. We are not saying that plague, pestilence or public disorder will definitely descend on you... but what if they do?

By **BOB MORRISON**

**H**umans can survive for weeks without food, but without regular water intake the body ceases to function incredibly fast. In the Developed World, and to a certain extent when deployed on military operations too, we are used to having access to fresh water pretty much on demand. However if your area floods following exceptionally heavy rainfall, as seems to be happening with increasing frequency in Europe

and North America, the water supply can quickly become infected by sewerage and water-borne pathogens. Do you have the means to collect sufficient water for self and family and to filter it for safe drinking?

If/when the shit hits the fan, the power grid is likely to be the first thing to fail. With no electricity supply, water filtration plants and pumping will quickly stop and if terrorists launch a cyber-attack on

**01: SINCE THE START OF THE MILLENNIUM A SERIES OF EXTREMELY HEAVY RAINSTORMS WHICH MANY ATTRIBUTE TO GLOBAL WARMING AND CLIMATE CHANGE HAS BROUGHT SEVERE FLOODING TO BOTH WESTERN BRITAIN AND MANY EUROPEAN MAINLAND COUNTRIES - THIS WAS KESWICK IN CUMBRIA IN 2009 [© MIKE GORMLEY]**

**02: URBAN FLOODING DOES NOT JUST AFFECT PICTURESQUE OLD TOWNS IN HILLY OR MOUNTAINOUS AREAS - THIS IS SELBY IN A LOW-LYING PART OF YORKSHIRE DURING THE FLOODS IN 2000 AFTER THE RIVER OUSE BURST ITS BANKS**

**03: SARAJEVO IN THE FORMER YUGOSLAVIA WAS BADLY DAMAGED DURING THE BOSNIAN CIVIL WAR - THE SIEGE OF SARAJEVO, SAID TO BE THE LONGEST CITY SIEGE OF MODERN HISTORY, LASTED FROM APRIL 1992 UNTIL FEBRUARY 1996 WITH THE ONLY FOOD WHICH GOT IN HAVING TO BE TRANSPORTED THROUGH A FOOT TUNNEL [© CARL SCHULZE]**

**04: DURING THE 'ARAB SPRING' OR JASMINE REVOLUTION AT THE START OF THIS DECADE SEVERAL HOLIDAY DESTINATION COUNTRIES ON THE SOUTHERN AND EASTERN MEDITERRANEAN COASTS WERE PLUNGED INTO TURMOIL AND THERE IS STILL INSTABILITY IN SOME - THIS IS CAIRO IN EGYPT IN 2011 [© YVES DEBAY +]**





01

our infrastructure the computers that control the water network may well fail. However if you are well-prepared you will have plans in place for water collection and filtration. But will you have light to allow you to function in darkness or gloom when the power goes down and if you do have

torches will you be able to recharge the batteries?

Let's assume you are switched-on, no pun intended, to solar charging and power generating; for example, it is now possible to both recharge batteries and cook or brew with a



03



04



02

BioLite stove. You have water to drink and power to see what you are doing, but how much food have you cached and will your stash last until the crisis has passed? Do you know how to catch and prepare animals, such as pigeons or rabbits, for food?

Then there is the one thing humans simply cannot live without; fresh air. If the outside air is polluted, what would you do?



# PREPPERS GUIDE



05



07



08



09



10

## WATER

05: HUMANS CANNOT SURVIVE WITHOUT AIR, WATER AND FOOD - ASK YOURSELF THIS: "COULD YOU REALLY BE SELF-SUFFICIENT IF WAR OR CIVIL UNREST WERE TO CAUSE SOCIETY TO BREAK DOWN WITH THE SUPERMARKET SHELVES EMPTYING AND EVEN THE TAPS RUNNING DRY?"

06: RAINWATER COLLECTED IN A WATER BUTT BEING FILTERED AND PUMPED INTO A BLADDER USING AN MSR GUARDIAN PORTABLE PURIFIER WHICH CAN TREAT OVER 10,000 LITRES OF NON-STERILE WATER AT 2.5 LITRES PER MINUTE [© MIKE GORMLEY]

07: THIS VEGETATION SOLAR STILL HYDRO KIT FROM SURVIVAL METRICS IN THE US, AVAILABLE IN THE UK THROUGH HEINNIE.COM, CONTAINS THREE 25 GALLON (114 LITRE) OPTICALLY CLEAR COLLECTION BAGS, DRINKING POUCH, DRINKING TUBE, TAPE AND CONCISE INSTRUCTIONS ON HOW TO PRODUCE WATER FROM PLANTS

08: EASILY TRANSPORTABLE WATER CONTAINERS ARE A MUST, AS ARE GOOD QUALITY DRINK-THROUGH FILTER CAPS - BE AWARE THAT NOT ALL WATER CONTAINERS USE THE SAME SIZE OF SCREW TOP AND ALSO ENSURE THAT YOU KEEP CLEAN WATER AND DIRTY WATER CONTAINERS SEPARATE

09: WHILE MILITARY TYPE WATER BOTTLES ARE USEFUL THEIR BULK CAN BE PROBLEMATIC WHEN EMPTY WHEREAS STURDY BLADDERS AND FLAT CONTAINERS TAKE UP NEXT TO NO SPACE, HOLD MORE AND MOST CAN BE FITTED WITH STANDARD WATER FILTERS TOO

10: USE OF NEW TECHNOLOGY HAS MADE COLLAPSIBLE LIGHTWEIGHT WATER CARRIERS STURDY - THE BÜBI BOTTLE ON THE RIGHT CAN EVEN BE USED TO BOIL TO STERILISE IT SO LONG AS KEPT AWAY FROM AN OPEN FLAME

06





## ADVERTORIAL



# SURVEILLANCE

## 'UNDER THE RADAR' BAILOUT GEAR

**W**ithin the commercial sector are a small number of individuals deploying overseas to conduct long, drawn out clandestine operations known as 'under the radar', these can be by operating within small teams or even alone on undercover tasks. These individuals do not have the back up of their Military or Police counter parts. Because of this they need to ensure the correct kit and equipment is carried on their person at all times, not only gather 'product' evidence, but to sustain themselves and equipment for the duration of their task.

**CROPS Surveillance Ltd** is known in the private arena as a company that conducts this type of operations around the world - having a history with these guys, we took the chance to ask them what kit each operator would carry on a daily basis.

### C&S: So what and how do you carry the necessary kit to fulfil your overseas tasks?

**CROPS:** We carry a large number of items but within two stages. Stage one: carried within clothing of the operator, and stage two: carried within a bandolier around waist under clothing.

#### Stage One: Within Clothing

These items are always carried on the operator within their clothing, and are their very basic level of EDC.

- Mobile phone x2 (in-country and home network)
- Pocket knife (folder)
- Head torch (keep hands free)
- Passport (threat level dependent)
- Local currency & cards
- Personal tracking device
- Handcuff key (concealed)
- Mapping of operational area
- Dictaphone

#### Stage Two: Within Bandolier

These larger items are concealed on the operator's body within a bandolier belt which is worn under clothing.

- HD Video camera with 'Nightshot' and IR torch
- Covert Communications Equipment

- Vehicle tracker (short term)
- Medical kit (bleeds & airways)
- Power pack phone recharge
- Gloves (latex) & Balaclava

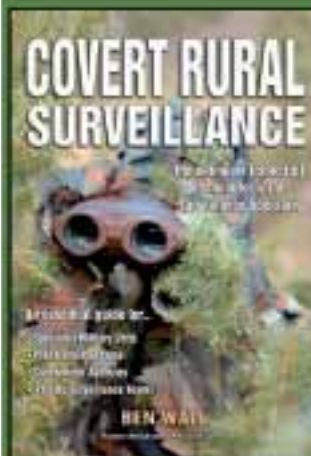
### C&S: You mention carrying your passport with threat level dependent, why does this make a difference?

**CROPS:** If we are going on plot and penetrating compounds, which always has a high risk of compromise, the last thing we need to have seized or at worst taken from us by the subject group, is our means to exit the country we are working in. Because of this real threat, we will normally dead letter box our travel papers somewhere in the country until complete.



Typical CROPS operator in the field having just conducted a compound penetration to gather product, you'll see the black hip bag around his hip, this is used to carry the covert camera system which had just been deployed. ↑

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## PREPPERS GUIDE

### POWER

11: A GOOD HEAD TORCH IS ESSENTIAL FOR WHEN THE POWER GOES DOWN - FOR SIX MONTHS OF THE YEAR OVER HALF OF EVERY DAY IS IN DARKNESS AND EVEN IN SUMMER LIGHT WILL BE NECESSARY IF YOU HAVE ESTABLISHED A REFUGE ROOM WITHOUT WINDOWS

12: HEAD TORCHES WITH RECHARGING ABILITY CAN BE TOPPED UP WITH A TEX-ENERGY INFINITE ORBIT HAND-POWERED GENERATOR - AVAILABLE IN THE UK FROM HEINNIE.COM IT CAN GIVE ONE HOUR OF HEAD TORCH POWER FOR JUST ONE MINUTE OF CRANKING

13: THE ONLY PROBLEM WITH BATTERY-POWERED DEVICES LIKE HEAD TORCHES IS THAT THE BATTERIES WILL EVENTUALLY RUN OUT - THE ANSWER IS TO USE RECHARGEABLES AND A GOOD SOLAR CHARGER WITH AN ADAPTER FOR DIFFERENT SIZES

14: THIS INEXPENSIVE HAND-CRANKED TORCH FROM 12 SURVIVORS GIVES 60 TO 90 MINUTES OF LIGHT, DEPENDENT ON HOW MANY LEDS ARE USED, WHEN FULLY CHARGED AND ALSO HAS A BUILT-IN FM RADIO SCANNER TO LET YOU LISTEN IN TO PUBLIC SERVICE BROADCASTS



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### SOLAR

15: AN EFFICIENT SMALL FOLD-AWAY SOLAR PANEL LIKE THIS NOMAD 7 FROM GOAL ZERO WITH A SMALL CHARGER WILL ALLOW YOU TO KEEP YOUR TORCH AND RADIO BATTERIES TOPPED UP

16: A LARGER 20 WATT 3-PANEL NOMAD 20 LINKED TO A LARGE RECHARGER CAN POWER DEVICES USING 12 VOLT DC

17: SOLAR PANEL AND EMERGENCY GENERATOR TECHNOLOGY HAS ADVANCED REMARKABLY IN RECENT YEARS - MIKE GORMLEY WILL BE TESTING THIS GOAL ZERO KIT IN DEPTH IN A FUTURE ISSUE OF C&S MAGAZINE

18: THE GOAL ZERO YETI 150 GENERATES 12 VOLT AND 240 VOLT AC POWER - IF KEPT CHARGED IT WILL GIVE YOU A POWER SOURCE AT HOME SHOULD THE GRID GO DOWN OR AWAY FROM THE HOME WHEN ELECTRICITY IS NEEDED



## COMMS

19: IN A DISASTER SCENARIO COMMUNICATIONS ARE ESSENTIAL - NOT ONLY WILL YOU NEED TO BE ABLE TO LISTEN TO PUBLIC SERVICE BROADCASTS BUT YOU MAY ALSO NEED TO COMMUNICATE WITH COLLEAGUES AND PARTNERS

20: A SMALL MULTI-BAND RADIO WHICH CAN PICK UP LONG WAVE WILL COVER ALL BASES - I KEEP THIS OLD BUT RELIABLE SET IN MY EMERGENCY FOOD CACHE BOX - REMEMBER NOT TO LEAVE BATTERIES IN WHILE THE RADIO IS IN STORAGE



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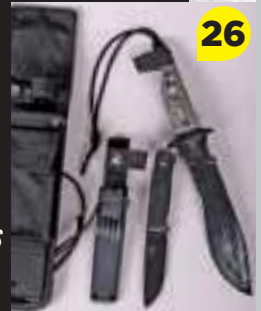
## BLADES & FIRE

26: A STURDY KNIFE IS PRETTY MUCH ESSENTIAL FOR SURVIVAL - THE MEL PARRY (RIGHT) WILL TACKLE THE HARDEST OF TASKS BUT EVEN THE SMALLER FALLKNIVEN WILL COPE WITH MOST SITUATIONS A SURVIVOR COMES ACROSS

27: A BELT TOOL - GERBER TO THE LEFT AND SOG TO THE RIGHT - WILL GET YOU OUT OF A LOT OF TRICKY SITUATIONS AND SHOULD ALWAYS KEPT TO HAND; MY PERSONAL FAVOURITE IS THE LEATHERMAN MULTITOOL

28: LITTLE CREDIT CARD SIZED TOOLS MAY LOOK LIKE TOYS BUT THEY TAKE UP NEXT TO NO SPACE AND COULD GET YOU OUT OF A JAM - THESE TWO ARE FROM TOOLLOGIC

29: THREE DIFFERENT STYLES OF SPARK GENERATING BARS - JUST RUN THE BACK OF YOUR KNIFE SHARPLY DOWN THE BAR AND YOU WILL GENERATE A SHOWER OF FIRE-LIGHTING SPARKS - THERE ARE DIFFERENT STYLES BUT ALL DO PRETTY MUCH THE SAME THING



26



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28



29

## FOOD & HUNTING

21: YOU DON'T NEED TO GO TOO FAR OUT OF TOWN TO FIND RABBITS AND AS THEY BREED LIKE, WELL, RABBITS YOU COULD EVEN START YOUR OWN BUNNY FARM TO CREATE A LONG TERM MEAT SUPPLY LIKE MANY IN EASTERN EUROPE DO

22: A FOOD CACHE BOX WITH A WEEK OR TWO'S WORTH OF TINNED/PRESERVED FOOD, CANDLES, RADIO AND COMPACT SLEEPING BAGS WILL NOT TAKE UP MUCH SPACE UNDER THE STAIRS OR IN YOUR REFUGE ROOM - STICK IN A COUPLE OF SURVIVAL BOOKS TOO TO RELIEVE THE BOREDOM

23: IF YOU HAVE THE RIGHT SKILLS AND A LITTLE BIT OF EQUIPMENT FISH FOR EATING CAN BE CAUGHT RELATIVELY EASILY - THOUGH IF EVERYONE ELSE BECOMES A CAPABLE SURVIVOR STOCKS WILL PROBABLY RUN OUT FAST

24: UNLIKE IN THE US, IN THE UK WE DO NOT HAVE READY ACCESS TO FIREARMS BUT CATAPULTS - EITHER PURPOSE DESIGNED OR HOME-MADE - CAN ALSO BE USED TO SOURCE BIRDS AND SMALL ANIMALS FOR THE SURVIVAL POT

25: PIGEONS ARE ONE OF THE MOST COMMON TYPES OF BIRD IN BOTH TOWN AND COUNTRY - MAKE SURE YOU KNOW NOT ONLY HOW TO CATCH THEM BUT ALSO HOW PREPARE THEM FOR THE POT OR SPIT



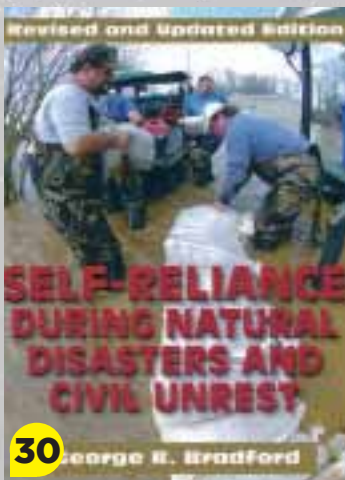
# PREPPERS GUIDE

## BOOKS

30: YOU CAN NEVER HAVE TOO MANY GOOD REFERENCE BOOKS - THIS ONE FROM PALADIN PRESS IN THE US COVERING NATURAL DISASTERS AND CIVIL UNREST IS VERY USEFUL

31: YOU DO NOT NEED TO SPEND A FORTUNE WHEN PREPARING TO SURVIVE - THIS BOOK TELLS YOU HOW TO DO IT ON THE CHEAP - IT IS AMERICAN SO THE SOURCES MAY BE DIFFERENT BUT THE PRINCIPLES ARE THE SAME

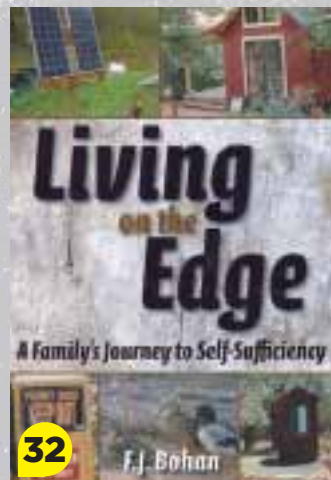
32: READING HOW OTHERS ACHIEVE SELF-SUFFICIENCY CAN BE VERY INFORMATIVE - THIS ONE IS ALSO FROM PALADIN PRESS BUT IS AVAILABLE IN THE UK



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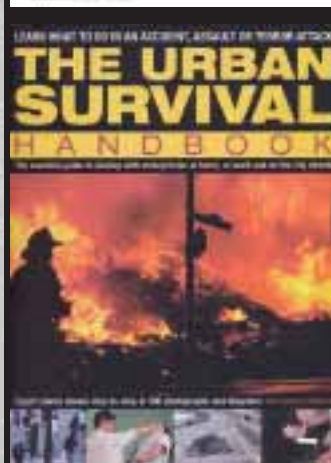


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Images © Bob Morrison



## RESPIRATORS

32: A RELATIVELY INEXPENSIVE SINGLE USE RESPIRATOR MAY BE USEFUL FOR ESCAPING A BURNING BUILDING OR TERRORIST CHEMICAL ATTACK BUT THESE THINGS HAVE A SHORT SHELF LIFE AND CAN ONLY BE WORN ONCE

33: THIS POTOMAC RESPIRATOR TAKES UP VERY LITTLE ROOM IN ITS VACUUM POUCH AND COULD SAVE YOUR LIFE - JUST BE AWARE THAT ONCE OUT OF THE POUCH ITS FILTERS START WORKING AND THEY BECOME LESS EFFECTIVE OVER TIME

34: IDEALLY A MILITARY (RIGHT) OR EMERGENCY SERVICES RESPIRATOR IS BEST - JUST ENSURE YOU HAVE STOCKS OF FRESH SCREW-IN FILTERS TOO - THAT OLD MILITARY FILTER IS AS USEFUL AS A CHOCOLATE FIREGUARD



32



33



34

## ABOUT THE AUTHORS

JASON POLLEY IS COMBAT & SURVIVAL MAGAZINE'S RESIDENT SURVIVAL WRITER AND AUTHOR OF 'HOW TO SURVIVE OUTDOORS' FROM THE INTERNATIONALLY PUBLISHED TEACH YOURSELF SERIES

BOB MORRISON IS THE EDITOR OF C&S MAGAZINE AND IS ALSO CO-AUTHOR OF SEVERAL ANGLO-AMERICAN SURVIVAL TITLES FROM ANNEX PUBLISHING, INCLUDING 'THE URBAN SURVIVAL HANDBOOK'



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